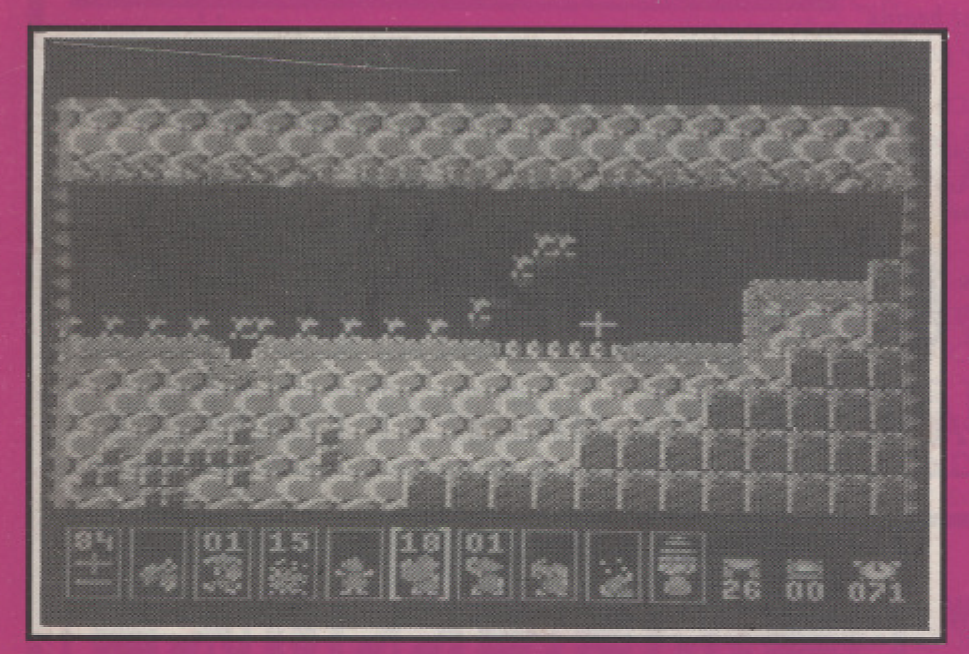
Page 6 Publishing's

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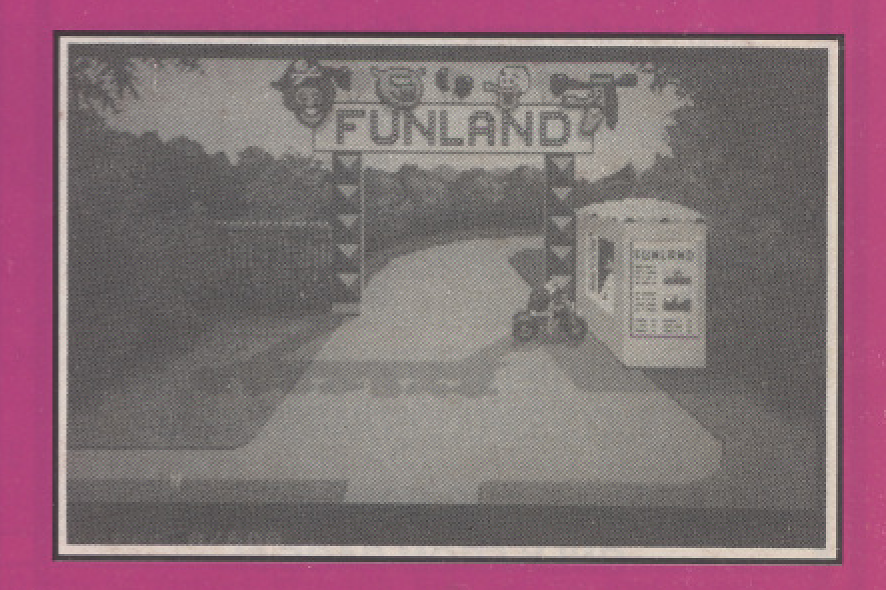
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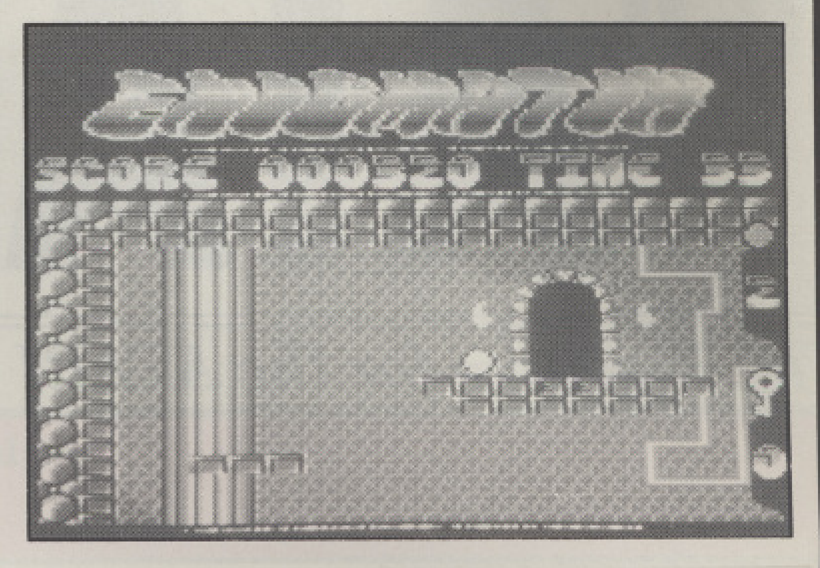


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'The magazine for the Dedicated Atari User'

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Issue 66 - February/March 1994



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PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it!

The next issue of NEW ATARI USER will be on sale 31st March
Editorial copy date is 21st February

PROGRAMS

FEATURES

REVIEWS

ST FILE

DEPARTMENTS

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Issue 66
February/March 1994
'The Magazine for
the Dedicated Atari User'
ISSN No. 0958-7705

Editorial

THE CREDITS

All of the usual stuff is on page 3 but here are the people who made this issue possible.

Les Ellingham is going to turn over a new leaf for 1994, be more positive and stop dreaming and is going to get down to planning what to do with all the money when he wins the pools

Sandy is going to stop dreaming in 1994 and get down to planning all the holidays and whether to have the new swimming pool heated

Paulette is going to stop dreaming for 1994 and plan her life with the new man that is going to stick with her and give her everything she wants

The Regular Contributors, who provide the backbone of the magazine and can generally be relied upon to come up with good articles and reviews, are ....

John S Davison	**Stuart Murray**
Paul Rixon	**Ian Finlayson**
Allan J. Palmer	**Nic Bavington**
Mark Stinson	**The Tipster**

All other contributors for this issue are individually credited alongside their articles or programs. Thanks to everybody for sharing their enthusiasm with other Atari users.

Ain't Christmas nice sometimes? This is the first time I have circulated a wish list of CD's and, sure enough, several presents looked about 5 inches square instead of being soft and squidgy. Just before Christmas, as a special treat, I had Mary Chapin-Carpenter's COME ON, COME ON which has done much to get me through the end of last year and the beginning of this. The pressies included Bob Dylan's GOOD AS I BEEN TO YOU (a huge disappointment), 10,000 Maniac's MTV UNPLUGGED which was surprisingly better than their last studio album and The Albion Band's RISE UP LIKE THE SUN - how's that for a real oldie? It might be 15 years old but The Gresford Disaster is still a stunner. Whatever happened to John Tams? Next up was Chris Rea's EXPRESSO LOGIC which is one of those that seemed really flat on first hearing but improved and improved on each play, and then The Saw Doctors ALL THE WAY FROM TUAM which is brilliant. At first I thought it was just the same as their first album but after a few plays it gained an identity of its own and has been on the deck much longer than the others. It's great getting new music and it is still surprising how much it helps to get everything done. If it ever comes to pass that the music dies then the only alternative I can think of is to retire to Florida and, maybe, visit Disney World every week!

The next issue of NEW ATARI USER could feature YOUR article or program, so SEND IT IN NOW!

PAGE 6 shows just what you can do with your Atari. NEW ATARI USER has always been created entirely with Atari equipment, initially on the XL but more lately with a Mega ST and other stuff, who needs PC's or Macs! With the exception of the final output on a Linotron and the use of an in-house repro camera for the photos and listings everything is done on the ST. Hardware includes a Mega ST2 (upgraded to 4Mb), SM125 Monitor, Supra 30Mb Hard Disk, an Atari Laser Printer, Citizen 124D printer, Philips CM8833 monitor, 130XE, XF551 disk drive, 810 disk drive, 850 interface, NEC 8023 printer. Principal software used is Protext and Fleet Street Publisher 3.0. Other software includes Kermit, Tari-Talk, Turbo Basic and various custom written programs on the XL/XE. Articles and programs submitted on XL/XE disks are subjected to various custom written programs before being transferred across to the ST via TARITALK. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. A disk with the finished pages as Postscript files is sent to a typesetting bureau to be output on a Linotron and, hey presto, finished pages are sent back exactly as you see them. It really does work! All that is left is to drop in the listings and photos.
Well, it's not quite as easy as that but you get the idea!

C'MON FOLKS!

As we begin a new year it might be time to reflect on the current state of the market for the Atari Classic. There is no doubt that the number of users has dropped off and that sales of software are nowhere near what they were a couple of years ago, yet support for your machine seems to be growing. The crunch for 1994 will be whether the market is going to be big enough to support all those who want to bring you sustenance for your Atari in the next year or so.

Let's take a look at the folks who are supporting you at the moment. As well as ourselves, and The Page 6 Accessory Shop which is vital in supporting production of the magazine, we have Derek Fern's Micro Discount, Gralin International and Dean Garraghty Software all supplying commercial software and other products. This year they will be joined by ANG Software from Holland and KE-SOFT from Germany, both of whom will be selling their own commercial products direct to the end user. If you want magazines, mostly on disk, you can turn to Stuart Murray at NOSAUG, Dean Garraghty Software and TWAUG who are now joined by ANG Software with their new diskmag and KE-SOFT with a new printed magazine with disk. The PD scene, which we introduced to the UK and which at one time was a major support for the magazine, is flooded with support from ourselves, Stuart Murray, Dean Garraghty, TWAUG and others. On top of this we have the Atari Classic Programmer's Club trying valiantly to introduce new commercial software and several more in the wings thinking that they can join in. Perhaps the only company not clashing with any other, and with truly independent products, is Tiger Developments and good luck to them.

In a large market all of these companies would survive and prosper but I do wonder whether there is enough money in Atari Classic owner's pockets to provide everyone with sufficient return. One or two suppliers are beginning to get a little paranoid and there is a certain amount of bitching behind the scenes as people try to protect their share of the market. There have even been threats of withdrawal of support for New Atari User and rumours of petitions asking readers not to subscribe. Pathetic or what? Those involved are only hastening the demise of the Atari Classic and shooting themselves in the foot.

If everyone was making a fortune from supporting the Atari Classic none of this would be going on as everyone would be too busy but there are no fortunes to be made in the Atari community. Those of us who have been supporting the Classic from the beginning are still doing so out of some kind of love and loyalty and just about scraping a living.

So what's the message in all this? Users will support those who they consider are most important to their own interests and, with limited funds available, that's how it should be. Commercial supporters of the Classic (and that includes User Groups) should begin to realise that a small market needs to be carefully cultivated. Attacking other supporters will only alienate those users who are loyal and will serve only to lessen support for those who are attacking or criticising. Everyone is entitled to opinions on the support and service they receive but to try and use bully boy tactics against others is counter-destructive.

Over in the States they have a strong sense of 'community' and have talked of 'the Atari Community' for many years. In this country we don't think too much of community, preferring to go our own ways, but everyone reading this is linked together by the most remarkable true home computer ever made and we all need to work together - and that means everyone - if we want the Atari Classic to survive. Communities live together and support each other, let's see if 'the Atari Community' can stay together in the coming year.

Les Ellingham

A NEW DISK MAGAZINE FROM HOLLAND

ANG Software from Holland have introduced a new disk magazine, advertised elsewhere in this issue, but this is a disk magazine with an amazing new feature - you get to choose a commercial game free with each issue!

The diskmag is called **THE BEST OF POKEY** magazine and Issue 1 is available now. On side A you will find 55k of textfiles carefully 'packed' so that there is room for your choice of a free commercial game - chosen from over 20 games written by, or marketed by, ANG. The textfiles on Issue 1 include: *Editorial* - welcoming readers etc., *Mailbag* - featuring letters and adverts from subscribers, *Machine Code for beginners* - learning to program in machine code, *Turbo Basic for beginners* - learning to program in Turbo Basic, *Packers and Crunchers* - how do they work and how to make them, *Sampling* - what is sound, what is digital etc., *Game Tips* - how to solve games and codewords, *Preview* - a preview of the newest game T-34, *Highscore List* - who's got the bet scores, *Sorting in Turbo Basic* - a special by the Comtech crew, *The Making of Video Games* - a series by Frankenstein and more.

Over on side B of the disk you'll find a selection of software supporting the textfiles together with programs such as *Unicum*, an Arkanoid clone, *Spaceball*, a one or two player ball game, *Five to Five*, a good Polish demo from Mirage plus a *Disk to Tape converter* and others.

THE BEST OF POKEY is available from ANG on subscription at a price of £12 for 3 issues, £22 for 6 issues and £42 for 12 issues. These prices include postage and VAT and also the cost of the commercial game, so for around £4 or less you can get a disk mag and a commercial game. How's that for value?

ANG will also send you their catalogue free of charge which will include full details of The Best of Pekey and other magazines and software. At the very least you should send for the catalogue.

ANG can be contacted at ANG Software, Ridderkerksestraat 60, 3114 RK Schiedam, Holland. Tel./fax: +31 - (0)10 427 17 32.

MICRO DISCOUNT NEWS

Remember the disk interface announced by Micro Discount a couple of years ago? Well, after two years development, the device should be available early this year with a target release date of March. The interface will allow any 5¼" or 3½" standard PC mechanism or ST drive to be connected to an Atari 8-bit and formatted up to 720k. The price of the interface will be under £50 and with drive mechanisms on offer at shows for as little as £25 a disk drive for your Atari will be a reality at the lowest price ever.

Micro Discount are also developing a true 8-bit sound interface which will allow you to reproduce sounds as good as on the ST or PC. This will be an external module that just plugs into the joystick ports, so overcoming the main fear of many users of opening up their Atari and wielding the soldering iron.

Micro Discount are at 265, Chester Road, Streetly, West Midlands B74 3EA

RIGHTS TO ZEPPELIN GAMES

Micro Discount have announced that they have now purchased the rights to the Zeppelin range of Atari 8-bit games so look out for some interesting re-releases in 1994. A total of 18 games should be wending your way.

RAMBIT STILL AROUND!

Following our review of Micro Discount's Turbo tape deck last issue we received a call from Dave Richardson of Rambit who was unhappy as he felt that the article gave the impression that Micro Discount are the Turbo producers rather than retailers of Rambit products. Dave Richardson assures us that Rambit is still around and still owns the copyright to the Turbo-tape system and the various specialised loaders in the Turbo software. As far as we know, Micro Discount are the only company to sell a tape deck with a Turbo enhancement ready fitted and that is what the review was about, but we are happy to put the record straight.

Thinking that Micro Discount are *the* 'Turbo' people is, perhaps, understandable since they have been the main promoters of the device in the past year or so and it is several years since we have heard anything of Rambit. However Rambit is still active producing the Turbo versions of software marketed by Micro Discount and what is more they also run a trouble shooting and tricky conversion service whereby, for little more than the return postage cost, they will attempt to place Turbo versions on Side 2 of the original tape, as done for Micro Discount. As an example he has recently converted PAGE 6 WRITER, published by New Atari User, for a reader who was having difficulties.

You can get in touch with Rambit at 16, The Green Thurlby, Bourne, Lincolnshire PE10 0HB or telephone 0778 424450.

MAZE PRINT MISSING LINE

The MAZE PRINT listing in Issue 65 had a line missing. Just drop in the following:

```
30 GRAPHICS 4:POKE 708,179:POKE 712,39:POKE 710,39
```

otherwise you won't be able to see what is going on!

SWIFT SPREADSHEET

With very little serious software now available announcements of re-releases of quality application software are most welcome. The Atari Classic Programmer's Club have acquired the rights to Audiogenic's **SWIFT SPREADSHEET**.

The manual has been re-written for the Atari version and the product repackaged and the new version was released towards the end of last year. It retails for £12.95 on disk with a cassette version promised at £9.95. We hope to bring you a full review of the Swift Spreadsheet shortly but can certainly recommend the product to anyone requiring spreadsheet facilities on their Atari Classic.

Swift Spreadsheet can be obtained from ACPC, Pen-Tyddyn, Capel Coch, Llangefni, Anglesey, Gwynedd LL77 7UR.

AMS

A NEW SPRING SHOW

AMS is now the highlight of the year for Atari Classic owners and in 1994 you will be able to get double the enjoyment as the organisers have added a new show in the Spring. You'll find full details of the dates and venue elsewhere in this issue.

If you missed AMS 7 last November, then you missed what was probably the best supported event for the Atari Classic owner with most of the companies and individuals providing products and services for the Atari in attendance. Attendance from users was, however, down quite a lot on previous years and if you were one of those who didn't attend you missed a lot of fun, and a lot of bargains. You could have picked up 800XL's for a fiver, 810 disk drives for £25 and 1050 disk drives for prices lower than they have ever been. Incredibly some of these bargains remained unsold at the end of the show! You would also have had the opportunity of meeting the folks behind KE-SOFT from Germany and ANG from Holland since they both made the trip across the Channel just to meet you.

The weather for AMS 7 was appalling so maybe that was one excuse, but make sure that you give your support for future AMS events which are now the only national forum for the supporters of your computer. In the next issue we will give you a rundown of all the exhibitors of interest who will be attending the Spring event so that you don't miss out. Finally a note to exhibitors - if you are planning to attend the Spring AMS please tell us, and give some details of what you will be showing, so that we can give you full publicity in the next issue.

Mailbag

Last year .. this year?

For your old Mailbag Editor, it's that difficult time of year - the latest issue of New Atari User has just been published, the copy date for the first issue of 1994 is already looming, and Christmas is fast approaching! Although you won't be reading this peerless prose until the beginning of February, it has to be collated well in advance. So apologies if this Mailbag turns out to be somewhat slimmer than usual but the Stagecoach from darkest Stafford has only had the opportunity to deliver a small amount of correspondence so far...

Allan J Palmer patiently waits in the hot seat at the Mailbag office each issue waiting for your letters on all things Atari

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SOFTWARE - RATINGS, UNDISTRIBUTEDS AND A GUIDE

An anonymous letter writer from parts unknown (please sign your letters and include your address on it, Mailbag items get separated from orders and other correspondence) has a few interesting thoughts: *"Why not give precise ratings of the software you test, like many other mags do?"*

I seem to remember Les commenting on this in a previous issue. When it comes down to it, ratings still tend to be subjective and what appeals to one person may not rate highly with another. Personally, I wonder how you can really rate software on a percentage scale? Perhaps Stuart Murray could give us his insight on how he applies a percentage scheme to his PD reviews. What do others think?

The letter continues *"Over 10,000 programs of all sorts have been written since the 8-bit range appeared in 1979/80. Each future issue of NAU could bring the opportunity to build up a very complete guide to existing software on the Atari Classic. Of course, this is a tremendous and ambitious project but the number of 8-bit owners in all countries (and therefore the different programs everyone has) could make this possible."*

I think Kirk Ruebottom's "A - Z of Golden Oldies" which ran in issues 50 - 55 was a very impressive attempt to document a great part of the Atari Classic commercial software library. I assume the '10,000' figure quoted must include PD software as well. Yes it would be a very interesting project, but the time and energy to actually compile such a major list would be considerable. Any volunteers?

And more ... *"As we all know, numerous software companies announced products for the XL/XE that very few people or nobody saw. Some were even written but never saw the light of day for the companies feared that the XL/XE sales figures would not be high enough to ensure profit. If the Atari 8-bit market is definitely lost, why not put those "lost" games out via the PD scene?"*

There have been one or two articles in previous issues about "lost" software. Can anyone give a clear picture of the intricacies of copyright and what prevents such software becoming available through PD channels or other means? And how do you seek permission from Companies that no longer exist?

SID'S BITS AND PIECES...

Regular correspondent Sid Berry from 17 Old Pond Road, Ashford, Kent TN23 2QX sent in a letter which just missed the deadline for the last issue. Sid wrote that he was due to go in to hospital for an operation *"...and may be laid up for some time afterwards - I may not be able to write again for some time so with regard to issue 64, the first comment is for Les, Mr Ellingham, Top Dog, Numero-Uno, etc., -. as you can see from the comments above I will be laid up at home after my operation and while I am I would be able to check out the article on Expanding Your Atari if you would like and this would keep me out of trouble with the lady wife.* (We'll have to call a close to this subject I'm afraid as I have absolutely no idea where the unpublished parts of this series now are ... maybe returned to the original author ... maybe among the two van loads of stuff that had to go down the tip when we moved offices! Sorry hardware freaks! Les)

"In response to the debate on Home Filing Manager, and Nigel Ludlow the reason I stopped using it apart from the copy routines not working, was the awful layout. If I wanted to use index cards I would do so but with all the capabilities of the Atari going to waste I decided to write my own filing system that could be used as a database. This was quite good until I wanted to store my record collection and could not fit it all in the memory or on one disk.

"As to the debate on AtariWriter+ I use this all the time, mainly in connection with work. I had to produce an applications list with retail prices and cross references to other manufacturers' part numbers and cost prices. I had intended to use a database until I found how restricted they could be; so in desperation I used AW+ and although it is not ideal it does allow me to produce a good looking document laid out how I want it. I am still looking for a good database with flexibility and access to hard drives. The finished document is 200 characters per line on 15 inch wide paper so the 255 characters per scrolling line on the AW+ display is ideal to work with and with search and replace both up and down the file it works well with the only drawback being memory - even with 45K per file it requires 20 disks to store all the data!

"The problem with the bank switching system on the 130XE or upgraded 800XL is that AW+ was written around a 128K system and is unaware of extra memory. If I ever have time I will investigate this further. As to Richard Preston's problem with

the KXP1123 printer I also use a Panasonic, among others a KXP1592 multi mode wide carriage printer, and have constructed with AW+ and the printer manual several drivers for different functions. This is easy to do and all the instructions are in the AW+ user guide.

"In reply to B Rogers of Southampton I have just obtained a 850 interface very cheaply because it had no manual or psu - this works fine with the Newbury printer via the serial port which can be accessed from AW+ with the Print R1: command, etc. The 850 handler is part of AW+ and is installed at boot-up. Just one question for Mr Rogers - did he ever belong to the Atari user group that used to meet at the Bold Forrester? I used to belong to that group before moving to Kent.

"Just a quick note to Daniel Carrodano I am sorry I have not replied to your last letter, I took it to work to photocopy as I send copies to my brother-in-law in Portsmouth and it fell into the cleaning tank in the workshop and was destroyed! If you would like to write again with your address I will be more careful promise.

"Also in reply to Fred Meijer, I also use Eurocheques for orders in Europe but for America I have found that credit cards are the cheapest way to purchase and most American suppliers expect customers to pay this way.

"And also to David Bennett from Coventry - this problem with the 1050 drive not reading enhanced disks could be a fault, or most often that the head requires cleaning. A dirty head will read data from sectors below 720 but because of the layout of tracks on the disk those nearer the middle are packed tighter together. These sectors are only used in enhanced mode and I would suggest David cleans the head and sees if this solves his problem; and while on the subject of disk drives, if Mr J R Iles has been unable to find a power pack for the Indus GT drive I could make some system test's on this drive for him and calculate the power requirements and if need be construct a power supply for him. If this would solve his problem please contact me at my home address.

"And a few words for Mr E Macinerney - if he uses DiskBase with SpartaDos, he can set up a RAMdisk to sort in, this is much quicker; also, SpartaDos has a valid point/note routine and can be used to copy database files without losing track of sector pointers - unlike Dos 2.5.

"And finally I wish Neil Taylor from Horndean, Hants good luck with the user group. Before moving to Kent I lived in Portsmouth and still have a few contacts in the area I will contact them and make sure they are aware of your endeavour."

Well Sid, I trust that in the weeks since your letter arrived and the publication of this issue, you have emerged fit and well from hospital and are on the road to recovery. Thank you for one of your usual interesting letters. If I had a prize to award for regular letter-writing in terms of quantity and content, I would have to award it to Sid - unless of course anybody else would like to write more regularly and on a wide range of topics. Perhaps I should ask Les if we can afford a small prize for the "Star Letter of the Month"?

PAGE 6 WRITER

Denham Phipps from Bradford, West Yorkshire reports that he has discovered two undocumented features of Phil Cardwell's 'Page 6 Writer' (featured back in issue 50).

"Pressing CONTROL + Q gives you the option to exit to DOS. I haven't tested this thoroughly as I don't have a disk drive and am using the cassette version. Secondly, if you press RESET, the computer appears to lock up, and all that hard work is lost... but pressing BREAK twice will return you to Page 6 Writer complete with your work intact!

"While I'm on this subject, I wonder if anyone has a solution to a problem I have using Page 6 Writer - it does not like mixing elongated text (especially when centred) with normal text (I use a 1029 printer). Incidentally, if anyone has problems using this program to print using the international character set, the answer is simple, while setting up the control characters for the 1029, assign to a key of your choice the ATASCII codes for the characters you want. For instance, if you want to print the pound sterling sign, you could give inverse-E a value of 27 and inverse-W a value of 23 (codes for 'Escape' and 'International characters' respectively) and inverse-H a value of 8 (code for the pound sterling symbol). Then to get your symbol, at the appropriate point in your text you press SELECT+SHIFT+E, SELECT+SHIFT+W, SELECT+SHIFT+H - this should work, but I must admit that I haven't tested it fully yet..."

SOME QUESTIONS

Denham also raises some final questions that will be of interest to other users as follows:

"(1) Is SpeedScript v3.0 any good?
(2) Will Digital Editor or anything like it be available on cassette?
(3) Has anyone ever heard of the Atari 1450XLD computer or the VCS 2600/5200 keyboard?
(4) Are Alternative, Harlequin, or Fantasy still producing games for the 8-bit?"

Thanks for your tips and comments, Denham. Regarding your questions: (1) I've never used the product, but it's companion SpeedCalc (also from COMPUTE! magazine was a good basic spreadsheet; any comments from other readers? Would anyone like to write a feature comparing different word processors? (2) I doubt that you'll see a cassette version of Digital Editor because it would be very impractical to consider the loading of different fonts and Print Shop icons, etc. on a regular basis from tape - it's the sort of application that really needs a random access device, i.e. a disk drive; (3) back in 1983, Atari announced their new XL range - 600XL, 800XL, 1400XL and 1450XLD - you should be familiar with the 600XL and 800XL models as they did enter production; however, although publicised (photographs appear in the July and December 1983 issues of ANTIC magazine) the 1400XL and 1450XLD never entered production! Just to whet your appetite, the specification for the 1400XL was 64K RAM, built-in BASIC (Rev. B), diagnostics, programmable function keys, a built-in modem and a voice synthesiser! The 'D' suffix on the 1450XLD indicated that it had the same specification as the 1400XL but with a built-in 5.25 inch disk drive (1050 model) and with an expansion bay space for a second drive!! Disappointing, isn't it? Would anyone care to consider an article on building a pseudo-XLD machine?; and (4) no!

DATABASE DECISION

Martin Andrews from Derby has *"...a very large collection of CDs, LPs and cassettes, which I would like to put on a database. This will be updated once every week or so. Can you please point me in the right direction as to which database would be the most suitable, i.e. will accept possibly thousands of entries, is fairly easy to set up and is convenient to add to and sort. I have got AtariWriter+, Mini-Office II and File-It II amongst others, but haven't done much with them. I don't want to start off with the wrong one and have to transfer everything. Is there a purpose made program in the public domain which will already be suitable for my needs?*

Perhaps you should talk to Sid Berry - see his comments above on databases and recording information. This of course could be the subject of another article for the magazine (hint) - a comparison of various database programs. The Page 6 PD Library has DiskBase (DS 38).

CB OR NOT CB

Back in issue 64, Arthur Morris enquired about using CB to transmit Atari data. Nick Ashby from Ruislip in Middlesex responds:

"I am afraid this is a no no, only telephony (i.e. speech) is allowed to be broadcast via Citizens Band (CB)."

Mailbag

GENEALOGICAL PROBLEMS

Nick Ashby is also *"...having problems trying to run the Genealogy program (Page 6 PD disk DS29) using double density formatted disks. I was hoping that I could increase the data file capacity and although I have transferred the program and files to double density disks (formatted by MyDOS) using SpartaDOS, the program will not run properly."*

I suspect Nick, that the program's record handling routines, to cater for the insertion, amendment and deletion of records, are built around "standard" Atari DOS constraints (i.e. maximum number of sectors, etc.) . Writing the program to cater for various density formats may have made the operation too complex - the author may not have had access to a double density drive. Maybe someone out there has developed a patch which can be applied to allow Genealogy to support a different density structure.

M.U.L.E. Players

Jason Kendall from Bourne, Lancashire was pleased to see his letter printed in issue 65 and reports that he's already had a reply to his Contact column plea for help with Ultima. Now he knows that there are people out there who do respond to questions, he's got another one for us:

"I have recently been playing a 'golden oldie' - M.U.L.E. from Electronic Arts. This is one of the few games to accommodate 4 players, i.e. 4 joysticks at once. On other similar games such as Dandy Dungeons (Page 6 PD Library disk 73), you can control players 1 and 3 with one joystick and players 2 and 4 with the other (much better on Dandy Dungeons than normal 2 player mode!). With M.U.L.E. the 130XE only works on the 1 or 2 player options. The game recognises players 1, 2 and 4 on the starting screen (as their 'stick' messages light up). I thought that the XE had hardware to enable ports 3 and 4 to be on joysticks 1 and 2 respectively. I have tried using the 800 Translator disk, but this has no effect. Can anyone tell me if a 4 port adaptor could be made, or do I need to obtain an old 800?"

I think the confusion here is that the XE Operating System actually maps the values for joysticks 1 and 2 into the shadow registers (locations 634 and 635) for sticks 3 and 4, this doesn't mean that it will use those values to act as 'pseudo' joysticks. M.U.L.E. is probably written to expect responses for joysticks 3 and 4 on PORTB (location 54017) - that's fine on the 800 machine, but the XL and XE machines do not have a physical PORTB, this location is used for memory management so no chance of using 4 players on a 130XE... unless of course someone knows better?

SOLUTIONS OR NOT?

Kevin Cooke from Exeter in Devon has been tempted to write following Eddie Cousins' comments last issue about game solutions appearing in magazines. Kevin notes *"...Despite supplying some of the hints / solutions in the last couple of Tipster columns, I have rarely used solutions to complete a game prematurely, as I don't wish to waste my money on something that won't challenge me. At the end of the day it comes down to how much self control you have. If you haven't completed a game, just don't read its solution. On the other hand, when you are stuck, the solution is there for you to use!"*

CLeaRing ERROR 9

B Rogers sends a note regarding Ian Finlayson's Variable Lister Tutorial in issue 65. Ian noted that GOTOing the routine a second time generates a "Error 9" because WORD$ is already DIMensioned. Mr Rogers suggests inserting a CLR command before WORD$ is DIMensioned so that subsequent calls of the routine find WORD$ un-DIMensioned and the DIM statement then operates without generating the Error message.

PRINTER SOLUTIONS

Another regular correspondent, B Rogers from Southampton writes with some answers to questions raised in issue 65:

"Jack Barnes writes about printer problems he is having with a serial printer. It should be noted that only 3 wires are REQUIRED for correct function of a RS232 interface; these being TX Data, RX Data, and Ground. Others are desirable, but not essential. Assuming Mr Barnes has wired the cable correctly, (the correct pinout is actually printed on page 55 of issue 65), the most likely problem is a lack of understanding of the implications of using a serial printer. First, it should be noted that most commercially produced software will not recognise the printer as being present, since the assumption is often made that the printer will respond to the "P:" device. AtariWriter is, I believe, one exception to this rule, since it allows for the definition of custom printer drivers. The solution is as follows - send output to the "R:" handler instead. Obviously, LPRINT, LIST "P:", etc. will not work. To fully understand how to get the printer running, study should be made of the "R:" device protocols and, to a lesser degree, the XIO command. What follows should serve as a warning to eager bargain hunters. It is absolutely essential that before buying that "wonderful bargain", one fully considers exactly what it is and how one intends to use it. Failure to do so may result in burnt fingers.

"Ray Pawson wants to know about printer buffers. Since these devices are connected either by a RS232 or Centronics interface, they do not need to be 'Atari compatible'. The best place to find printer buffers is to look in magazines such as Computer Shopper. The one I purchased about two years ago has 256K RAM on board, and cost about 25 pounds. Price may be somewhat higher at the moment due to an (artificial) increase in RAM prices."

Thanks for all the information and suggestions, Mr R; I'm sure our readers will find this of interest.

WHICH LIGHT GUN GAME?

Finally, Kevin Cooke has a question:

"While looking at (Old) Atari User magazine Volume 3 number 8, I noticed a game for the Light Gun on the front cover - the game appears to be called 'Trouble Shooter' - I have never heard of this game, but the magazine description of it sounds like 'Bug Hunt'. Can anyone tell me whether it was re-named for release?"

Over to the Light Gun fanatics...

And with that, it's time for me to get this Mailbag column in the post, hopefully to meet the pre-Xmas copy date! I look forward to hearing from you all in 1994. Let's have lots of discussion of all things Atari to take us through 1994!

A DEDICATION

This year I'd like to dedicate the column to ***Don Bell*** *of Ontario, Canada. Don has run the excellent* ***BellCom PD Library*** *for the Atari Classic since 1986. BellCom has always been a friendly and professional operation. Sadly, the level of interest in the Atari Classic line has dropped to a point where Don finds it is no longer practical to keep the BellCom Atari 8-bit PD Library running; and consequently the service closed on 31st December 1993. Thank you Don for your support of the Atari Classic and the great service you gave the Atari 8-bit community during the last 7 years. Good luck in your future ventures!*

Allan J. Palmer

Some basic notes on ... GRAPHICS

Ann O'Driscoll concludes her series on the Graphics modes of the Atari with the modes that are generally thought to be available only on the XL/XE models but are in fact available to all

GRAPHICS 9 to 15

Graphics 9 to 15 are made up of 3 screen types: The GTIA modes (Graphics 9 to 11) which allow the use of extra colours, two multicoloured text modes (Graphics 12 and 13) and two high resolution drawing or map modes (Graphics 14 and 15).

THE GTIA MODES

Graphics 9 to 11 are called the GTIA modes because they use the Atari's GTIA chip. These modes were not accessible from BASIC on the first Ataris, which had a CTIA chip instead. All three screens have the same dimensions (80 across by 192 down), they do not have text windows and they do not have screen borders.

GRAPHICS 9 uses only 1 colour but this can appear in 16 different luminances on the screen at the same time. The background screen colour is controlled by register 4 at memory location 712 and you can set it using POKE 712,C*16 or SETCOLOR 4,C,0 where "C" is the colour number (0-15) that you want. The 'luminance' or last value in the SETCOLOR command doesn't have to be 0, but this value is usually chosen as it enables the full range of luminances to be shown. Next, you use the COLOR command to change the luminance of this colour so that you can see things printed on the screen. While the color command would normally use values in the 0-15 range, you can in fact use any number in the 0-255 range and not get an error message.

GRAPHICS 10 uses 9 colour registers in all. As well as the 5 "standard" registers at memory locations 708-712, this mode also allows access to the 4 extra colour registers at locations 704-707 which are normally used for player missile graphics. You must POKE values into locations 704-707 but you may use SETCOLOR or POKE to place colours in the registers at locations 708-712. The COLOR command is then used to pick a register as follows:

COLOR 0 = location 704(background)
COLOR 1 = location 705
COLOR 2 = location 706
COLOR 3 = location 707
COLOR 4 = location 708
COLOR 5 = location 709
COLOR 6 = location 710
COLOR 7 = location 711
COLOR 8 = location 712

One thing to note is that in this mode, memory location 704 holds the background screen colour generally held by register 4 (location 712). Location 712 acts as a "normal" colour register in Graphics 10.

GRAPHICS 11 uses 16 different colours which can appear on the screen at the same time. All of these must have the same luminance, which is controlled by register 4 at memory location 712. You can set it using POKE 712,L or SETCOLOR 4,0,L where "L" is the luminance number (0-15) that you want. You then use the COLOR command to select the different colours for printing on the screen.

A DEMONSTRATION

LISTING 1 is a simple program to show the 3 GTIA modes in operation and give an idea of the range of colours available on these screens. The "G R A P H I C S" letters and numbers 9, 10

```
EX 1 REM ##############################
CV 2 REM #  SOME BASIC NOTES ...      #
MM 3 REM #       on Graphics 9 to 15 #
GT 4 REM #     by Ann O'Driscoll      #
CP 5 REM #  ------------------------- #
UM 6 REM #      NEW ATARI USER        #
HE 7 REM #       January 1994         #
FE 8 REM ##############################
NO 9 REM
FE 30 REM  LISTING 1: GRAPHICS 9 TO 11
BE 32 REM
AL 50 CLR :GRAPHICS 0:POKE 712,148:POKE 7
   64,255:POKE 752,1:? "GRAPHICS 9 TO 11
   DEMO":? "_____________________"
SU 60 ? "↓↓ OPTION  CHANGES COLOUR/LUMINA
   NCE":? "↓ START  MOVES TO THE NEXT MOD
   E"
ZT 70 POSITION 2,20:? "▶Press any key to
   begin"
UU 80 IF PEEK(764)=255 THEN 80
MQ 90 GOTO 300
BD 99 REM --- DRAW LINES ---
SI 100 FOR N=0 TO 10:PLOT X,N+Y:DRAWTO X+
   6,N+Y:NEXT N:RETURN
VK 110 FOR N=0 TO 10:PLOT X,N+Y:DRAWTO X+
   8,N+Y:NEXT N:RETURN
DN 120 FOR N=0 TO 1:PLOT N+X,0:DRAWTO N+X
   ,80:NEXT N:RETURN
VD 130 FOR N=0 TO 1:PLOT N+X,0+Y:DRAWTO N
   +X,Y+40:NEXT N:RETURN
XX 140 FOR N=1 TO 1:PLOT 0,Y+N:DRAWTO 76,
   Y+N:NEXT N:RETURN
UV 145 FOR N=0 TO 1:PLOT N+X,110:DRAWTO N
   +X,190:NEXT N:RETURN
SK 149 REM -- G.R.A.P.H.I.C.S. LETTERS
SD 150 X=0:GOSUB 120:Y=70:GOSUB 110:Y=0:G
   OSUB 100:X=7:Y=40:GOSUB 130:X=3:GOSUB
   100:RETURN
KD 155 X=11:GOSUB 120:Y=40:GOSUB 110:Y=0:
   GOSUB 100:X=16:Y=0:GOSUB 130:X=18:Y=40
   :GOSUB 130:RETURN
CF 160 X=22:GOSUB 120:Y=0:GOSUB 110:Y=40:
   GOSUB 110:X=29:GOSUB 120:RETURN
TI 165 X=32:GOSUB 120:Y=0:GOSUB 110:Y=40:
   GOSUB 110:X=39:Y=0:GOSUB 130:RETURN
ZF 170 X=42:GOSUB 120:Y=40:GOSUB 110:X=49
   :GOSUB 120:RETURN
QH 175 X=54:GOSUB 120:RETURN
VW 180 X=58:GOSUB 120:Y=0:GOSUB 110:Y=70:
   GOSUB 110:RETURN
CT 185 X=68:Y=70:GOSUB 110:Y=40:GOSUB 110
   :Y=0:GOSUB 110:GOSUB 130:X=75:Y=40:GOS
   UB 130:RETURN
BU 299 REM --- GRAPHICS 9 ---
UB 300 GRAPHICS 9:SETCOLOR 4,10,0
UK 310 FOR NN=1 TO 8:COLOR NN:GOSUB 145+N
   N*5:NEXT NN
QD 320 FOR NN=1 TO 16:COLOR NN:Y=88+NN:GO
   SUB 140:NEXT NN
SW 330 COLOR 12:X=32:Y=110:GOSUB 130:COLO
   R 13:Y=110:GOSUB 110:COLOR 14:Y=140:GO
   SUB 110:COLOR 15:X=40:GOSUB 145
CT 340 IF PEEK(53279)<>3 AND PEEK(53279)<
   >6 THEN 340
DN 350 IF PEEK(53279)=6 THEN 400
FD 360 COL=COL+1:IF COL>16 THEN COL=0
OK 370 SETCOLOR 4,COL,0:GOTO 340
RY 399 REM --- GRAPHICS 10 ---
UP 400 GRAPHICS 10
KM 410 POKE 704,0:POKE 705,116:POKE 706,2
   4:POKE 707,148
YQ 420 POKE 708,60:POKE 709,72:POKE 710,8
   4:POKE 711,96:POKE 712,104
QA 430 FOR NN=1 TO 8:COLOR NN:GOSUB 145+N
   N*5:Y=88+NN:GOSUB 140:NEXT NN
PJ 440 COLOR 3:FOR NN=1 TO 3:X=24+NN*7:GO
   SUB 145:NEXT NN:X=38:Y=110:GOSUB 110:Y
   =180:GOSUB 110
GN 450 IF PEEK(53279)<>3 AND PEEK(53279)<
   >6 THEN 450
ER 460 IF PEEK(53279)=6 THEN 500
WO 470 FOR N=704 TO 712:IF PEEK(N)>250 TH
   EN POKE (N),0:GOTO 490
JG 480 POKE N,PEEK(N)+2
JM 490 NEXT N:GOTO 450
SW 499 REM --- GRAPHICS 11 ---
HK 500 GRAPHICS 11:SETCOLOR 4,0,8
UM 510 FOR NN=1 TO 8:COLOR NN:GOSUB 145+N
   N*5:NEXT NN
QF 520 FOR NN=1 TO 16:COLOR NN:Y=88+NN:GO
   SUB 140:NEXT NN
FW 530 FOR NN=1 TO 2:COLOR 9+NN:X=33+NN:G
   OSUB 145:X=39+NN:GOSUB 145:NEXT NN
GL 540 IF PEEK(53279)<>3 AND PEEK(53279)<
   >6 THEN 540
FR 550 IF PEEK(53279)=6 THEN 600
SP 560 LUM=LUM+1:IF LUM>16 THEN LUM=0
IG 570 SETCOLOR 4,0,LUM:GOTO 540
GA 600 POKE 764,255:POKE 752,0:END
```

Listing 1

and 11 are set up using PLOT and DRAWTO subroutines and a different color/luminance is chosen with the COLOR command before each routine is called up. The default settings initiated in LINES 300, 410-420 and 500 may be changed if you press the OPTION key, while pressing START brings you on to the next screen.

If you want to take a further look at the GTIA modes, a good place to start might be some early disks from the Page 6 Public Domain Library. Disk #16 has two drawing programs, one in Graphics 9 and the other in Graphics 11, while Disk #2 has some Graphics 10 demos.

continued ☞

TABLE 1
REDEFINITION OF "O" USING DIFFERENT COLOUR REGISTERS

REGISTER 708	REGISTER 709	REGISTER 710
00000000 (0)	00000000 (0)	00000000 (0)
00010101 (21)	00101010 (42)	00111111 (63)
00010001 (17)	00100010 (34)	00110011 (51)
00010001 (17)	00100010 (34)	00110011 (51)
00010001 (17)	00100010 (34)	00110011 (51)
00010001 (17)	00100010 (34)	00110011 (51)
00010001 (17)	00100010 (34)	00110011 (51)
00010101 (21)	00101010 (42)	00111111 (63)

```
EX 1 REM ###################################
CV 2 REM #  SOME BASIC NOTES ...          #
MM 3 REM #          on Graphics 9 to 15 #
GT 4 REM #        by Ann O'Driscoll      #
CP 5 REM #  ------------------------- #
UM 6 REM #           NEW ATARI USER      #
HE 7 REM #           January 1994        #
FE 8 REM ###################################
NO 9 REM
AC 30 REM  LISTING 2: GRAPHICS 12 +
BE 32 REM
SI 40 CLR :POKE 106,160:DIM M$(34):RESTOR
   E 50:FOR N=1 TO 34:READ M:M$(N,N)=CHR$
   (M):NEXT N
OG 50 DATA 104,104,133,207,104,133,206,16
   9,0,133,204,169,224,133,205,162,4,160,
   0,177
BO 55 DATA 204,145,206,136,208,249,230,20
   5,230,207,202,208,242,96
AE 60 NB=120:RAMB=NB*256:XX=USR(ADR(M$),R
   AMB)
XU 65 RESTORE 80:FOR N=RAMB+16*8 TO RAMB+
   26*8-1:READ B:POKE N,B:NEXT N
DP 80 DATA 0,21,17,17,17,17,17,21
QH 81 DATA 0,12,12,12,12,12,12,63
JS 82 DATA 0,21,1,1,21,16,16,21
TZ 83 DATA 0,63,3,3,63,3,3,63
LS 84 DATA 0,32,32,32,34,42,2,2
GE 85 DATA 0,21,16,16,21,1,1,21
AN 86 DATA 0,32,32,32,42,34,34,42
OK 87 DATA 0,42,2,2,2,2,2,2
AD 88 DATA 0,21,17,17,21,17,17,21
QE 89 DATA 0,63,51,51,63,3,3,3
CB 94 REM •• TAKE THE REM AWAY FROM LINE
CH 95 REM •• 99 IF YOUR ATARI CAN'T
JY 96 REM •• ACCESS GRAPHICS 12 TO 15
OA 97 REM •• DIRECTLY FROM BASIC
DL 98 REM ↓↓
MH 99 REM GOTO 500
XN 199 REM -- GRAPHICS 15 INTRO SCREEN
RF 200 GRAPHICS 15:POKE 752,1:POKE 764,25
   5:NN=0
AA 210 FOR N=0 TO 159 STEP 3:COLOR NN:PLO
   T 79,0:DRAWTO N,79:PLOT 79,159:DRAWTO
   N,79:NN=NN+1:IF NN>3 THEN NN=0
HU 220 NEXT N
KL 230 ? "   ↓Press  START  for Graphics
   12"
WO 240 IF PEEK(53279)<>6 THEN 240
LD 299 REM --- GRAPHICS 12
HG 300 GRAPHICS 12:POKE 752,1:POKE 106,NB
   -1:POKE 756,RAMB/256
GA 310 POSITION 8,4:? #6;"1 2 3 4 5 6 7 8
    9 0":POSITION 8,7:? #6;"10 21 32 43 5
   6 87 93"
LY 320 ? "   ↓Press  START  for Graphics
   13"
WM 330 IF PEEK(53279)<>6 THEN 330
MB 399 REM --- GRAPHICS 13
OR 400 GRAPHICS 13:POKE 106,NB-1:POKE 756
   ,RAMB/256
CR 410 POSITION 8,2:? #6;"1 2 3 4 5 6 7 8
    9 0":POSITION 8,6:? #6;"10 21 32 43 5
   6 87 93"
JO 420 POKE 764,255:END
PH 499 REM --- SET UP ANTIC 4
YZ 500 GRAPHICS 0:DL=PEEK(560)+256*PEEK(5
   61):POKE DL+3,PEEK(DL+3)+2
AL 510 FOR N=6 TO 24:POKE DL+N,PEEK(DL+N)
   +2:NEXT N
YC 520 POKE 106,NB-1:POKE 756,RAMB/256
ZY 530 POSITION 8,4:? "1 2 3 4 5 6 7 8 9
   0":POSITION 8,7:? "10 21 32 43 56 87 9
   3"
LM 540 POSITION 2,20:END
```

Listing 2

XL/XE GRAPHICS MODES

Graphics 12, 13, 14 and 15 are 4 modes which cannot be called up directly from BASIC on the older Atari computers. It is, however, still possible to access these extra screens on the 400/800 machines by using a little programming, and an example of this is given in LISTING 2.

GRAPHICS 12 AND 13 are multicoloured text modes. In Graphics 12, each character is the same height as a Graphics 0 character (8 scan lines) and you can fit 40 characters across a line of screen. You can also fit 40 characters across the screen in Graphics 13, except this time the characters are 16 scan lines high (double the Graphics 0 height).

You really have to define your own character set to use these modes because, while each character still uses 8 bytes of memory (i.e. fits on an 8x8 grid), the computer reads the bytes in pairs of bits rather than singly and only displays 1 bit per pair (4 per 8 line byte). The pixels are double the Graphics 0 width so the characters are still the same size. Each "bit pair" specifies the colour register which the bit uses. With 4 possible 2 bit combinations, you can therefore have 4 colours within each character. The combinations are:

00 = register 4 (location 712)
01 = register 0 (location 708)
10 = register 1 (location 709)

11 = register 2 (location 710) OR
register 3 (location 711) if in inverse mode.

Character definition may still be done on an 8 X 8 grid: If a bit is "off" you put in a 00 to select the background colour register; if it is "on" you put in a 01, a 10 or a 11 depending on the colour you want. Table 1 might throw some light on how this works. It shows how one character - the 0 - was actually redefined for LISTING 2 (explained below) using register 708 and what the bit pattern would have looked like if the same character had been produced using registers 709 or 710. The numbers shown in the brackets are the decimal values which are POKEd into the RAM character locations to produce the chosen figure; in this case the numbers under Register 708 were used (LINE 80).

SEND A CONTRIBUTION!

Remember it's your contributions that keep New Atari User alive. Whether it's a set of mini programs like those in previous issues or a comprehensive technical article, or an arcade game we want to be able to give other Atari users the opportunity to enjoy your work.
Look out your programs, polish them up and send them in!

Some basic notes on ... GRAPHICS

continued

GRAPHICS 14 AND 15 are like Graphics 6 and 7 respectively, except that each pixel is one scan line long instead of the 2 used in Graphics 6/7. This means that you get very high resolution screens (160 x 192; or 160 x 160 with a text window) which are most suitable for drawing. The colour use is the same as Graphics 6 and 7 - Graphics 14 uses register 4 (location 712) for the background and register 0 (location 708) for drawing points. Graphics 15 uses registers 1 and 2 (locations 709 and 710) for points as well.

AN EXAMPLE

LISTING 2 redefines the 10 number keys (0 to 9) to show Graphics 12 and 13 in operation. The introductory screen, beginning at LINE 200, draws a pattern in Graphics 15 to show the high resolution of this mode. The character set is duplicated in RAM by the routine at LINES 40-60 and the new data is POKEd into the number key locations by LINE 65: LINE 80 holds the data for the new 0, LINE 81 the data for the new 1, and so on. The characters were designed on graph paper and the data numbers to be poked into the specific memory locations were worked out manually. Such a method was adequate in this case because there were only 10 characters involved, but you might find it handier to use a font editor if you were planning on redefining the full character set. Steve Lakey's Font and Display Editor on New Atari User Issue Disk #58 is an easy to use editor program which allows you to redesign fonts in Graphics 1 or Graphics 12, and in fact uses Graphics 12 as the default. The new character set is called up by LINE 300 (for Graphics 12) and LINE 400 (for Graphics 13).

MAKING AN XL/XE SCREEN

The last few lines of listing 2 show how you can set up your own Graphics 12 screen by amending the pre-programmed display list for Graphics 0. In a display list instruction byte, the number "2" means show a Graphics 0 line and "4" means show a Graphics 12 line. These are called Antic mode numbers. The numbers for the other XL/XE screens are 5 (Graphics 13), 12 (Graphics 14) and 14 (Graphics 15). LINES 500-510 set up a Graphics 0 screen, find out where the display list starts and replace most of the 2s with 4s, the last few lines were left in Graphics 0 so that the "Ready" prompt would be displayed normally when the program ended. LINE 530 prints out the numbers in Graphics 12. The only difference between this line and LINE 310 is that the #6 is gone: This is because the computer thinks it is still working in Graphics 0. Finally, you must take the REM away from LINE 99 (thus bypassing the lines which call up Graphics 15, 12 and 13 directly) to bring this section of the listing into operation.

DISK DIRECTO HEADE

By reading the directory of commercial disks it can be seen that in many cases the directory contains a header of some form giving details like a title, version, date, etc. Such a header could be written to a newly formatted disk by using a disk sector editor but this can be confusing and time consuming, since it must always be remembered how a disk stores its data. In order to overcome these problems in a user friendly way, "Disk Directory Header" was born.

Disk Directory Header can create a header consisting of up to eight lines, completely filling the first directory sector if required where each line can consist of up to eleven characters, the normal file name length.

Disk Directory Header V. 2 provides nine standard headers which can be selected from the main menu as well as allowing you to create a custom designed header.

THE SCREEN

The top section of the screen comprises of the title. The central and the lower sections comprise the main working part of the screen.

USING THE DIRECTORY HEADER

When Disk Directory Header is first run, the centre section contains a menu and a prompt. To select one of the nine standard headers, press the appropriate number key, the menu will be erased and the chosen header printed in its place on the left side of the screen. If the chosen header requires a date then this will be requested before prompting for the formatting details.

As a part of the main menu, the bottom line of the screen contains a small two option menu, as a reminder, that at any time START can be used to cycle through the background colours whilst SELECT is used to reset the colour back to blue.

If a custom designed header is selected from the menu, the menu is again erased and the necessary details printed to enable its construction. As each line is entered, it is printed to the screen and a menu is displayed on the bottom line. Select "N" to continue and enter the next line, "P" to exit early and to prepare the disk or ESCAPE to exit back to the menu. If and when an eighth line is entered, the 'N/P/ESCAPE' menu is bypassed and control is passed directly to the 'Prepare disk' section.

PREPARE DISK

This section is entered after a header is completed and RETURN pressed, ESCAPE will exit back to the menu.

Prepare disk allows a disk to be first formatted in either single or enhanced density, ESCAPE again is used to exit. "S" is pressed to select single density or "E" is pressed for enhanced density. After selecting, 'CAUTION' is displayed on screen requiring "Y" to be pressed to continue. Any other key will return back to the previous stage to select the format density.

Upon pressing "Y", the disk which is currently in drive #1 is formatted and the header written into the directory. After this, the disk's directory is read and printed to the right hand side of the screen to confirm its presence.

Once the header has been written and the directory displayed, the option to write the DOS.SYS file is given. Upon pressing "Y", the directory display on screen is erased and the DOS.SYS file written to the disk and locked. The disk's directory is then once again read and displayed.

Regardless whether or not the DOS.SYS file has been written to the disk, the option to prepare another disk with the same header is presented. Pressing "Y" will allow the format density for this disk to be selected. Any other key will exit back to the menu.

MODIFYING THE STANDARD HEADERS

Naturally the standard built-in headers will need to be amended to incorporate the users name rather than my own name. The standard headers are stored at the end of the listing in the form of basic DATA. When modifying the headers, the single line format must be maintained due to the way that the program selects the various headers. Each set of header DATA terminates with the '@' character which is most probably the least likely character required for a header. It can be used within a line of characters but must not be used alone. The

TORY DER v. 2

John Foskett's Disk Directory Header published in Issue 65 proved to be very popular with lots of contribution disks arriving at New Atari User with custom headers. Just as we published the original a new, easier to use, version arrived and we make no apologies for so quickly presenting Version 2 of this great utility

limitation of a maximum of eight lines where each line comprises of a maximum of eleven characters must also be maintained. The main menu should also be modified to reflect the changes made.

If a modified header needs a date, then its position must be considered so that the details can be printed within the header on screen and for inclusion into the string for writing into the first directory sector of the disk. For this reason it may prove more convenient to leave the date position where it is and to simply modify the header around it.

TECHNICAL DETAILS

A VBI routine is used to control the background colour cycling, to disable the attract mode and to disable the CONTROL-1 stop-start toggle. It also provides an optional keyboard lock to ensure that only the normal uppercase character set ASCII codes can be used when selecting from the menus. This part of the VBI cancels any accidental operation of the respective two keys. The keyboard lock is disabled when the custom designed header is selected to enable the use of all characters.

All text erasing is achieved by using a machine code routine which defaults to erasing the lower section of the screen only, unless otherwise set up.

The cursor used within the data entry section is 'player zero', its colour is also controlled by the VBI according to the background colour. A small machine code routine is used to ensure that the player zero stripe is clear before the cursor is defined.

A small machine code routine is used to access the internal routines enabling data to be written to the disk.

A custom display list enables the use of a mixed mode text screen.

The machine code routines are stored in the form of relocatable machine code strings. The display list is also stored as a relocatable string, the strings being directly defined to eliminate initialising time caused by the loading of data.

DISK DIRECTORY HEADER v. 2

```
GX 1 REM ┌─────────────────────────┐
BK 2 REM |  THE DISK DIRECTORY HEADER |
SU 3 REM |         Version II         |
BA 4 REM |   Written by John Foskett  |
TU 5 REM |  ------------------------  |
YN 6 REM |Published by New Atari User |
YJ 7 REM |        January 1994        |
GV 8 REM └─────────────────────────┘
NO 9 REM
KA 70 N0=0:GRAPHICS N0:N16=16:POKE N16,64
   :POKE 53774,64:POKE 559,N0:POKE 712,N0
   :GOSUB 1460
IC 80 REM ------------------------------
RW 90 REM  Print Menu and Select
QZ 100 EXIT=N0:NUM=N0:GOSUB 1280
RB 110 GOSUB 840:KEY=K-48:IF KEY<N0 OR KE
   Y>N9 THEN 110
UH 120 I=USR(ADR(E$),N3,18):IF KEY=N0 THE
   N GOSUB 330:GOTO 450
KJ 130 GOSUB 870:IF EXIT=N1 THEN 100
QC 140 GOTO 480
LD 150 REM -----------------------------
BB 160 REM  Enter Details
XK 170 OPEN #N1,N4,N0,"K:":I$=" ":I$(MX)=
   " ":I$(N2)=I$:I$="":P=N0:GOTO 260
GK 180 POKE 764,255:GET #N1,K:IF K=N155 T
   HEN IF I$<>"" THEN CLOSE #N1:POKE 5324
   8,N0:RETURN
LM 190 IF K=N155 THEN 180
MZ 200 IF K=N27 THEN CLOSE #N1:POKE 53248
   ,N0:GOTO 290
WM 210 IF K>26 AND K<32 OR K>124 AND K<12
   8 OR K>N155 AND K<160 OR K=254 OR K=25
   5 THEN 250
```

continued ☛

DISK DIRECTORY HEADER v. 2

```
FL 220 IF NUM=N1 AND (K<48 OR K>57) THEN
   250
JQ 230 IF P<MAX THEN P=P+N1:POSITION H+P-
   N1,V:? CHR$(K):I$(P,P)=CHR$(K)
RN 240 IF P=MAX THEN POSITION H+P-N1,V:?
   CHR$(K):I$(MAX,MAX)=CHR$(K)
EV 250 IF K=126 AND P>N0 THEN I$(P,P)=" "
   :I$(P)="":P=P-N1:POSITION H+P,V:? " "
RK 260 POKE 53248,40+H*N4+P*N4+(P<>MAX)*N
   4
PF 270 GOTO 100
CQ 280 REM  Exit (POP or POP/POP) 
YD 290 IF KEY=N0 THEN POP
IQ 300 POP :GOTO 100
KX 310 REM ------------------------------
TZ 320 REM  Custom Header Entry Loop 
AX 330 POSITION N2,N3:? "CUSTOM HEADER":S
   EC$=" ":SEC$(N128)=" ":SEC$(N2)=SEC$:L
   INE=N0:P694=N0:P702=64
JZ 340 I=USR(ADR(E$)):LINE=LINE+N1:POSITI
   ON N2,N14:? "ENTER LINE ";LINE;":"
FV 350 ? "▸▸←←↓)↓------------":? "↓EIGHT L
   INES MAXIMUM      ESCAPE  EXIT"
DW 360 MAX=N11:H=N14:POKE 591,N1:POKE 694
   ,P694:POKE 702,P702:GOSUB 170:P694=PEE
   K(694):P702=PEEK(702):POKE 591,N0
RP 370 J=LINE*N16-N15:SEC$(J)="b♥♥♥♥":SEC
   $(J+N5)=I$
WH 380 POSITION N2,N3+LINE:? LINE;": ";I$
   :IF LINE=N8 THEN RETURN
ZJ 390 I=USR(ADR(E$)):POSITION N1,N19:? "
    ESC  EXIT   N  NEXT LINE   P  PREPARE
   "
CF 400 GOSUB 840:IF K=N27 THEN POP :GOTO
   100
QP 410 IF K=78 THEN 340
WH 420 IF K=80 THEN RETURN
MT 430 GOTO 400
KK 440 REM  Blank (♥) Remaining SEC$ 
CM 450 IF LINE<N8 THEN J=(LINE*N16+N1):SE
   C$(J)="♥":SEC$(N128)="♥":SEC$(J+N1)=SE
   C$(J)
LI 460 REM ------------------------------
VS 470 REM  Select Format Density 
JC 480 I=USR(ADR(E$)):POSITION N2,N14:? "
   PREPARE DISK":DS=N0
NU 490 ? "↓SELECT DENSITY TO FORMAT:":? "
   ↓↓ ESC  EXIT   E  ENHANCED   S  SINGLE
   "
TA 500 GOSUB 840:IF K=N27 THEN 100
YH 510 IF K=83 THEN PREP=N0:PREP$="SINGLE
   ":GOTO 550
SY 520 IF K=69 THEN PREP=N1:PREP$="ENHANC
   ED":GOTO 550
NE 530 GOTO 500
PB 540 REM  Format Disk 
RC 550 I=USR(ADR(E$)):POSITION N2,N14:? "
    CAUTION  PREPARE DISK↓":? PREP$;" DEN
   SITY SELECTED"
ZC 560 ? "↓↓PRESS  Y  TO PREPARE DISK IN
   DRIVE 1";
ZQ 570 GOSUB 840:IF K<>89 THEN 480
VF 580 I=USR(ADR(E$)):POSITION N2,N14:? "
   PREPARING DISK IN DRIVE NUMBER 1"
UH 590 ? "↓FORMATTING DISK IN ";PREP$;" D
   ENSITY":? "WRITING WITH VERIFY↓":? PW$
   :VERIFY=PEEK(N1913):POKE N1913,87
WZ 600 IF PREP=N0 THEN XIO 253,#N1,N0,N0,
   "D:"
BB 610 IF PREP=1 THEN XIO 254,#N1,N0,N0,"
   D:"
UM 620 REM  Write Header 
VO 630 BUF=ADR(SEC$):HI=INT(BUF/N256):LO=
   BUF-HI*N256
LK 640 POKE 769,N1:POKE 770,87:POKE 772,L
   O:POKE 773,HI:POKE 778,105:POKE 779,N1
   :I=USR(ADR(DH$))
SR 650 I=USR(ADR(E$),N16,N4):POSITION N2,
   N16:? "DISK FORMATTED AND HEADER WRITT
   EN":GOSUB 790
SM 660 REM  Write DOS.SYS (Y) ? 
TJ 670 POSITION N2,N19:? "PRESS  Y  TO WR
   ITE DOS.SYS FILE":GOSUB 840:IF K<>89 T
   HEN 720
BP 680 REM  Write DOS.SYS 
QS 690 DS=N1:I=USR(ADR(E$),N3,N10,N20,37)
   :I=USR(ADR(E$),N16,N4):POSITION N2,N16
   :? "WRITING DOS.SYS WITH VERIFY↓↓"
GX 700 ? PW$:OPEN #N1,N8,N0,"D:DOS.SYS":C
   LOSE #N1:XIO 35,#N1,N0,N0,"D:DOS.SYS":
   GOSUB 790
YP 710 REM  Disk Prepared 
UF 720 POKE N1913,VERIFY:I=USR(ADR(E$)):P
   OSITION N2,N14:? "DISK PREPARED IN DRI
   VE 1↓"
CU 730 ? PREP$;" DENSITY WITH";:IF DS=N0
   THEN ? "OUT";
OF 740 ? " DOS.SYS":? "↓↓PRESS  Y  TO PRE
   PARE ANOTHER DISK"
HF 750 GOSUB 840:IF K<>89 THEN GOTO 100
CC 760 I=USR(ADR(E$),N3,N11,N20,37):GOTO
   480
LN 770 REM ------------------------------
ZN 780 REM  Print Disk Directory 
RX 790 POKE 82,N20:POSITION N20,N3:? "DIS
   K DIRECTORY":OPEN #N1,N6,N0,"D:*.*"
UU 800 INPUT #N1;M$:? M$:IF M$(N1,N1)<>"*
   " THEN CLOSE #N1:POKE 82,N2:RETURN
OH 810 GOTO 800
LE 820 REM ------------------------------
LN 830 REM  Get Key 
NG 840 POKE 764,255:OPEN #N1,N4,N0,"K:":G
   ET #N1,K:CLOSE #N1:RETURN
LK 850 REM ------------------------------
HF 860 REM  Print Standard Headers 
AB 870 POKE 591,N0:I=N0:POSITION N5,N3:?
   "HEADER: ";KEY:RESTORE KEY*N20-N20+165
   0
EO 880 READ H$:IF H$<>"@" THEN SEC$(I*N16
   +N1)="b♥♥♥♥":SEC$(I*N16+N6)=H$:POSITIO
   N N4,N4+I:? H$:I=I+N1:GOTO 880
XM 890 IF KEY<N4 THEN 1150
DD 900 REM  Exit/Continue 
WY 910 POSITION N2,N19:? ME$
HS 920 GOSUB 840:IF K=N27 THEN EXIT=1:RET
   URN
PW 930 IF K=N155 THEN 960
PU 940 GOTO 920
OT 950 REM  Print Prompts 
NF 960 I=USR(ADR(E$)):POSITION N2,N14:? "
   PLEASE ENTER THE FOLLOWING":? "↓↓↓↓ENT
   ER NUMERALS ONLY▸   ESCAPE  EXIT↑↑↑↑"
DU 970 IF KEY>N3 AND KEY<N8 THEN 1060
GM 980 REM  Get Month 
FW 990 MAX=N2:H=24:NUM=N1:? "ENTER MONTH:
    1 to 12 )↓--"
BN 1000 GOSUB 170:MTH=VAL(I$):IF MTH<N1 O
   R MTH>12 THEN POSITION 24,N16:? "  ":G
   OTO 1000
SQ 1010 RESTORE 1250:FOR I=N1 TO MTH:READ
    MTH$:NEXT I:IF KEY=N8 THEN I=71:POSIT
   ION N5,N8
RC 1020 IF KEY=N9 THEN I=87:POSITION N5,N
   9
FN 1030 M$=MTH$:GOSUB 1230
GR 1040 REM  Get Year 
LZ 1050 I=USR(ADR(E$),N15,N4)
GA 1060 MAX=N4:H=N15:NUM=1:POSITION N2,N1
```

DISK DIRECTORY HEADER v. 2

```
   6:? "ENTER YEAR: >↓----"
FI 1070 GOSUB 170:YEAR=VAL(I$):IF YEAR<19
   93 OR YEAR>2040 THEN POSITION N15,N16:
   ? "     ":GOTO 1070
ES 1080 IF KEY=N4 THEN I=59:POSITION N9,7
QQ 1090 IF KEY=N5 THEN I=91:POSITION N9,N
   9
OO 1100 IF KEY=N6 OR KEY=7 THEN I=107:POS
   ITION N9,N10
EV 1110 IF KEY=N8 THEN I=76:POSITION N10,
   N8
FC 1120 IF KEY=N9 THEN I=92:POSITION N10,
   N9
GS 1130 M$=STR$(YEAR):GOSUB 1230
SB 1140 REM  Exit/Continue
AQ 1150 I=USR(ADR(E$)):POSITION N2,N19:?
   ME$
CK 1160 GOSUB 840:IF K<>N27 AND K<>N155 T
   HEN 1160
TD 1170 IF K=N27 THEN EXIT=N1
WX 1180 REM  Blank (♥) Remaining SEC$
IM 1190 I=LEN(SEC$)+N1:IF I<N128 THEN SEC
   $(I)="♥":SEC$(N128)="♥":SEC$(I+N1)=SEC
   $(I)
AD 1200 RETURN
OB 1210 REM ----------------------------
RK 1220 REM  Print and Load SEC$ Data
GF 1230 ? M$:SEC$(I,I-N1+LEN(M$))=M$:RETU
   RN
PZ 1240 REM  Months Data (for Header)
ZK 1250 DATA JAN,FEB,MAR,APR,MAY,JUNE,JUL
   Y,AUG,SEPT,OCT,NOV,DEC
OQ 1260 REM ----------------------------
ZT 1270 REM  Main Menu
EV 1280 I=USR(ADR(E$),N3,18):POSITION N6,
   N3:? "THE MENU OF STANDARD HEADERS"
CY 1290 ? "0. CUSTOM DESIGN":? "1. GENERA
   L PRESENTAION":? "2. GENERAL FREE PRES
   ENTATION"
LA 1300 ? "3. SINGLE PROGRAM FREE PRESENT
   ATION":? "4. GENERAL COPYRIGHT":? "5.
   PROTECTED PROGRAM COPYRIGHT"
PC 1310 ? "6. PROTECTED PROGRAM PRESENTAT
   ION":? "7. PROTECTED SHAREWARE PROGRAM
   ":? "8. DATED GENERAL PRESENTATION"
EA 1320 ? "9. DATED GENERAL FREE PRESENTA
   TION":? "↓↓PLEASE SELECT OPTION: 0 to
   9"
PK 1330 POSITION N2,N19:? "START CYCLE CO
   LOURS     SELECT RESET":POKE 559,58:PO
   KE 712,N0:RETURN
OM 1340 REM ----------------------------
ON 1350 REM  Error Trap
RJ 1360 TRAP 1360:CLOSE #N1:POKE N1913,VE
   RIFY:P=PEEK(195):M$="UNSPECIFIED ERROR
   "
EZ 1370 IF P=138 OR P=139 THEN M$="NO RES
   PONSE FROM DISK DRIVE"
EG 1380 IF P=173 THEN M$="CANNOT FORMAT D
   ISK"
PA 1390 I=USR(ADR(E$)):POKE 82,N2:POSITIO
   N N2,N14:? "ERROR ";P;" ENCOUNTERED↓":
   ? M$
ZP 1400 ? "↓↓ RETURN  PREPARE DISK  ESCA
   PE  EXIT":
MV 1410 GOSUB 840:IF K=N27 THEN 100
LH 1420 IF K=N155 THEN 480
PO 1430 GOTO 1410
OO 1440 REM ----------------------------
JP 1450 REM  Initialise
VH 1460 N1=1:N2=N1+N1:N3=N2+N1:N4=N3+N1:N
   5=N4+N1:N6=N5+N1:N8=N6+N2:N9=N8+N1:N10
   =N9+N1:N11=N10+N1:N14=N11+N3
AI 1470 N15=N14+N1:N19=N15+N4:N20=N19+N1:
   N27=N19+N8:N128=N16*N8:N155=N128+N27:N
   256=N16^N2:N1913=1913
RD 1480 TRAP 1360:POKE 708,58:POKE 711,74
   :MAX=N11:MX=MAX+N1:V=N16:DIM C$(17),PW
   $(15),E$(138)
HR 1490 DIM PREP$(N8),H$(N11),I$(MX),M$(N
   27),ME$(33),SEC$(N128),MTH$(N4),DH$(N5
   ),VBI$(78),DL$(34)
SE 1500 SEC$=" ":SEC$(N128)=" ":SEC$(N2)=
   SEC$
QS 1510 ME$=" RETURN  CONTINUE▸  ESCAPE
   EXIT":PW$="PLEASE WAIT....":DL$="ppOF
   @↑//// |+ |||||||||+ ||||+ |A"
HV 1520 E$="h SPshh Khh 0%SI Pwhh Phh Q)♥
   L H N) R"/)(%RP P %K└e H %Le N N/L/K%
   fL/RJP^%K└e H %Ye N N"♥) SP HHDOP"
FS 1530 E$(101)="%%┴i C H%Ni♥ NhdOPC♦) K
   )/ 0)♥ P) C QP ":DH$="h S@♦"
PQ 1540 VBI$="H)♥ M ) 0o P/ 6 )e ) →PI p
   .I/P ) ►N hL Bn N I p%I♥Pn-F ┣i♦ F ┣
   i  @ P)P()♦Po":C$="hh h K)♥ ♥ KHP♦"
WM 1550 I=ADR(DL$):HI=INT(I/N256):LO=I-HI
   *N256:DL$(LEN(DL$)+N1)=CHR$(LO):DL$(LE
   N(DL$)+N1)=CHR$(HI)
JA 1560 POKE 560,LO:POKE 561,HI
SW 1570 I=ADR(VBI$):HI=INT(I/N256):LO=I-H
   I*N256:POKE 54286,N0:POKE 548,LO:POKE
   549,HI:POKE 54286,255
NF 1580 REM  Set-Up PMG
ZA 1590 ST=INT(PEEK(742)/N8)-N1:POKE 5427
   9,ST*N8:POKE 53277,N2:POKE 704,150
PW 1600 I=USR(ADR(C$),ST*2048+1024):FOR I
   =N1 TO N8:POKE ST*2048+1215+I,N15:NEXT
   I
GN 1610 REM  Print Titles
KY 1620 POKE 752,N1:? "K     the disk▸▸←di
   rectory header":? "   VERSION II▸▸←←by
   ▸▸  John  foskett":RETURN
OP 1630 REM ----------------------------
OC 1640 REM  Header 1
LA 1650 DATA ┌──────────┐,|PRESENTED|,|BY
   JOHN F|,└──────────┘,e
PA 1660 REM  Header 2
YR 1670 DATA ┌──────────┐,|PRESENTED|,| FR
   EE BY |,|J.FOSKETT|,└──────────┘,e
PY 1680 REM  Header 3
OP 1690 DATA ┌──────────┐,|    A    |,| PR
   OGRAM |,|PRESENTED|,| FREE BY |,|J.FOS
   KETT|,└──────────┘,e
PU 1700 REM  Header 4
WV 1710 DATA ┌──────────┐,|COPYRIGHT|,|J.F
   OSKETT|,| (C)    |,└──────────┘,e
QS 1720 REM  Header 5
SF 1730 DATA ┌──────────┐,|PROTECTED|,| PR
   OGRAM |,|COPYRIGHT|,|J.FOSKETT|,| (C)
      |,└──────────┘,e
RQ 1740 REM  Header 6
SX 1750 DATA ┌──────────┐,|    A    |,|PRO
   TECTED|,| PROGRAM |,|PRESENTED|,|BY JO
   HN F|,| (C)    |,└──────────┘,e
SO 1760 REM  Header 7
MG 1770 DATA ┌──────────┐,|PROTECTED|,|SHA
   REWARE|,| PROGRAM |,├──────────┤,|J.FOS
   KETT|,| (C)    |,└──────────┘,e
TM 1780 REM  Header 8
AD 1790 DATA ┌──────────┐,|PRESENTED|,|BY
   JOHN F|,├──────────┤,|         |,└─
   ─────────┘,e
TI 1800 REM  Header 9
NU 1810 DATA ┌──────────┐,|PRESENTED|,| FR
   EE BY |,|J.FOSKETT|,├──────────┤,|
      |,└──────────┘,e
```

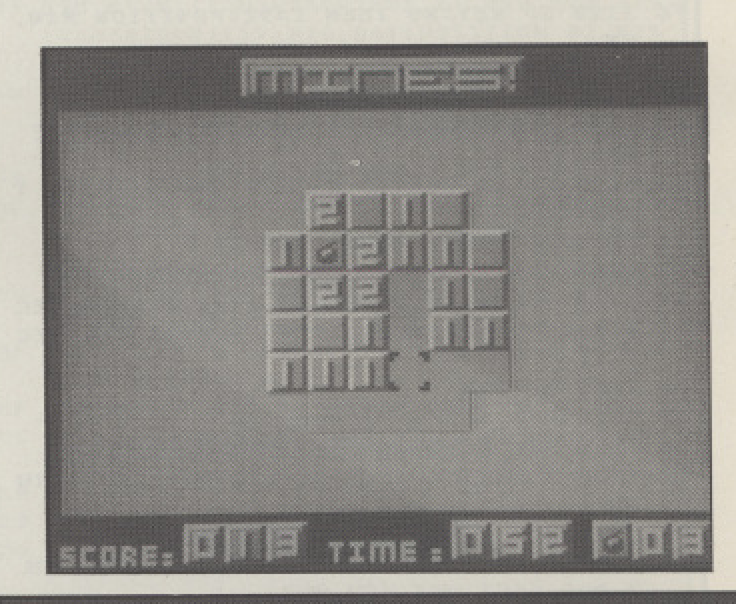
GUARANTEED TO BLOW YOUR MI

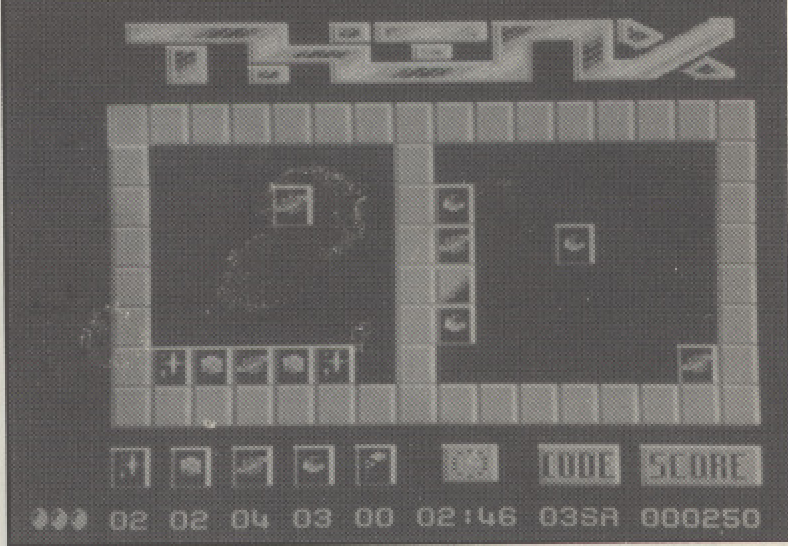
Puzzle games are a relatively new phenomenon in the Atari 8-bit world. Before the likes of Ke-Soft and A.N.G. arrived on the scene there were few to speak of, but German and Eastern European programmers have now emerged as experts in the field. As I've discovered, the stream of new and sometimes innovative puzzles is far from drying up.

MINES

MINES is another clone of the popular mine-hunting puzzle game which PC users will find lurking in every copy of Microsoft Windows. Having previously reviewed both Ke-Soft's Bomb and PPP's Minesweeper I'm wondering how to describe this game without duplicating the same paragraph!

You are faced with a grid of squares, some concealing mines (hence the title) and others quite harmless. Using the joystick as a pointing device and depressing the trigger for short or long periods you are asked to identify the safe and dangerous areas respectively. To reduce the guess-work, upturned safe squares display a numeric digit which indicates the number of adjacent mines. It's a race against the clock but it pays to consider the logic since you are permitted just one incorrect selection - any more mistakes and your mine sweeping days are over! There are twenty different grids for each of three difficulty settings. Thanks to the inherent addictiveness of Minesweeper and a competent helping of music and graphics, **MINES** is a very playable game indeed. This is the best clone so far.





Top - MINES Bottom - THINX
Right - WHOOPS 2

THINX

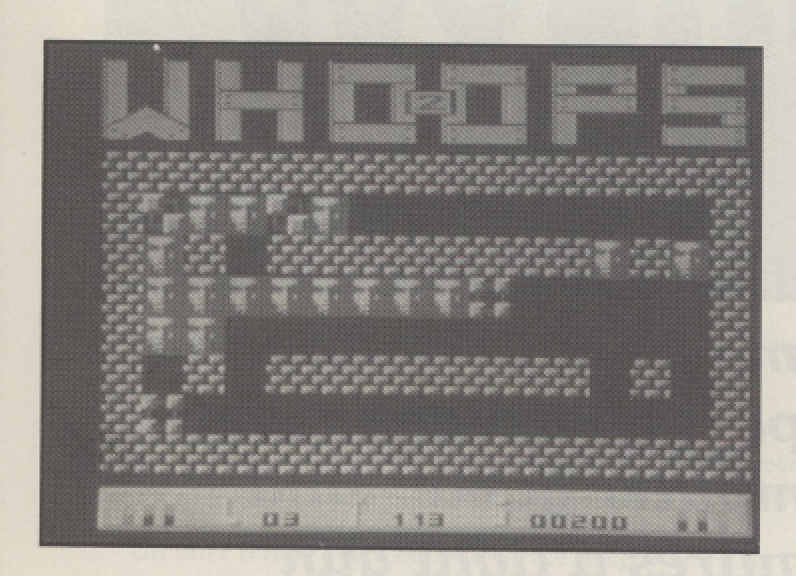
The Comtech Crew, who are (apparently) known in the world of demo programming, have come up with a puzzle game on the theme of shifting tiles. **THINX**, in common with many puzzles, involves the manipulation of symbolic squares in a confined area. There are five designs of tile linked to astronomy together with 'special' tiles, walls and exploding mirrors. Your objective is to bring tiles with a similar appearance together and thereby make them disappear - the intention being to clear a whole screen before the countdown timer signals your demise. A joystick cursor is used to direct the movement.

Sounds too easy? Well, naturally there has to be a complication and, in this case, certain restrictions are imposed on the moves. The main problem seems to be that a tile can only slide along the adjoining edges of two or more adjacent tiles. Special tiles can move along diagonals too and don't have to be removed, whilst exploding mirrors demolish the surrounding walls and flip the position of other tiles. You must be very careful not to end up with tiles that have no matching partners. It's a lot easier to play the game than explain the rules, but the authors have at least attempted the latter by supplying a detailed instruction leaflet. Thinx incorporates good graphics and music and is one of those games that seems to offer lasting appeal.

SAPER CONSTRUCTOR

For those keen addicts of Saper, A.N.G. have now released the **SAPER CONSTRUCTOR**, a utility that enables you to edit the levels of this excellent puzzle. It can handle both Ke-Soft and Avalon versions of the game and includes sixty four of the original levels in memory, so that they can be modified as required. The editor lets you 'paint' game features onto the levels and subsequently save them to a datafile or Saper disk for immediate play. There's not much more to be said, other than obviously you will need Saper to make use of the Saper Constructor - and yes, it's well worth having.

TO
MIND



by Paul Rixon

WHOOPS 2

In case you want more of the same, WHOOPS 2 is a variation on the Thinx concept. As before, the playfield is viewed from overhead and comprises several walls configured differently on each level. There are various symbols contained within the playfield boundaries and your aim is to bring matching ones into contact, whereupon they explode and disappear. When you push on the joystick all the symbols are propelled in the corresponding direction and continue to move until they collide with an obstruction. Certain symbols, suitably described as 'heads', cannot be removed but initially serve to assist you in the task of steering the others into matching groups. Later on they also become a real nuisance!

Because there are so many new positions to comprehend after each move, this game presents a real challenge. It seems straightforward on level one but there are thirty-nine other screens to master with increasingly complicated layouts. You only have sixty seconds to complete each stage, but it's worth taking time out to appreciate the nice graphics and pleasant background music.

These are just a few of the mind bending games I've come across in recent weeks. Puzzle enthusiasts now have an extensive range of software to choose from - but for me the biggest challenge is finding time to play them all!

MINES, WHOOPS 2, THINX and SAPER CONSTRUCTOR are distributed by A.N.G. Software who can be found at Ridderkerksestraat 60, 3114 RK, Schiedam, Netherlands - look for their advertisement in the pages of New Atari User.



GEISTERSCHLOSS

Stuart Murray tests a new game from Germany that is part board game, part computer game - and requires a light gun

Our German 8-bit friends at KE-Soft have recently released an arcade adventure for the Atari XL/XE and Light-gun. Geisterschloss is KE-Soft's answer to Crossbow by Atari Corp.

The game comes in a large orange box with a well-drawn skull on the front cover. Inside you'll find the game/editor disk, an A4 pad of grid maps, 8 small wooden figures in different colours, 12 keys (yellow tiddly-winks), and documentation in German. Luckily enough, I also had some brief docs in English by Kemal Ezcan himself. However, even without these, the game is very simple to follow.

In Geisterschloss you must guide your character through a castle which is laid out in a grid of up to 8 x 8 rooms. As you travel through each room you must draw the castle on your grid map and move your wooden figure to show your current location. It's like a mixture between an arcade adventure and a board-game!

Scattered throughout the castle, there are a number of boxes containing numbers. These numbers form a code which will allow you to exit the castle. However, the rooms of the castle can contain many different things. There are ghosts, keys, teleporters, earthquakes, etc.

PLUG IN THE GUN

Upon booting the game disk, you are greeted by a title screen displaying a blocky "Geisterschloss". Next up is the game selection menus. Everything is controlled via the light-gun. You must even 'shoot' the letters of your name - a nice touch! A small cross-hair is used to target numbers and letters.

After selecting all your game options, you must 'shoot' a level to play. There are 20 castles on the disk (A-T). They begin with 30 rooms on level A and increase to 64 (8 x 8) on levels L-T!

Next, the main game loads from disk whilst an atmospheric, gloomy castle appears on the screen with a big black door. A good introduction to the game.

You appear as a chunky character (very like the Troll in Archon) at the centre of the screen. There are passageways which take you through the castle rooms. To exit to an adjacent room you must shoot the door; you will then run off the screen and appear in that room. It is at this point that you really notice the poor response of the light-gun. At the edges of the screen the cross-hair becomes very "sticky" and you end up simply touching the screen with your light-gun to gain a good shot. This becomes increasingly annoying!

The rooms of the castle are all drawn in block graphics. Although very colourful, they are not of a high standard. There are four different background designs covering the 8 vertical levels of the grid map. I call them Steel, Brick, Stone and Iron.

As I've already mentioned, you must find the boxes which contain the code numbers. However, to open a box you must get a key - these can only be attained by defeating a ghost!

When you find a ghost in one of the rooms (it's the white thing that looks like a deformed polo mint!) you must shoot it with the light-gun. The ghost can be one of two things - a key or a secret door. Whichever one it is, you must play a game to defeat it.

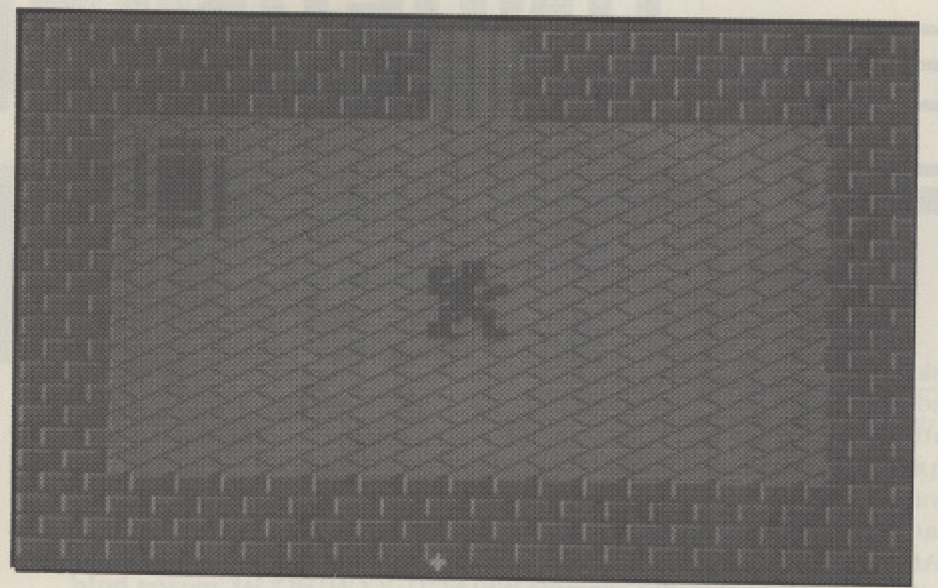
If it's a key, the game is to protect the key as your character travels from the left of the screen to get the key at the right. A number of ghosts will try to grab the key - shoot them or loose the game! Your character moves VERY slowly in this game so you'll have to shoot many ghosts, and they speed up after a while! If you manage to grab the key you are returned to the room and allowed to take a yellow tiddly-wink to show that you have one key. This is then placed in your name box at the top of the grid map.

SECRET DOORS

If the ghost is not a key, it will be a secret door. You must then play a similar game, except this time you have to protect your character from the ghosts as he tries to reach the door handle at the right-hand side of the screen. If you make it to the handle, a secret door (or doors) will appear when you return to the room.

When you find a box, you must shoot it to reveal the code number. It will only open if you have a key! Write this number in the room on your grid map.

There are several other obstacles along the way. Sometimes, when travelling from room to room, you'll get caught in an earthquake. You must play another light-gun game to gain entry to the next room. In the earthquake game you must



shoot falling rocks (they look like giant blocks of cheese from a Tom and Jerry cartoon!) before they hit the ground or land on your head (ouch!).

On later levels, you'll encounter the teleporters. Like the earthquake, you'll get caught in a teleporter between rooms. You must then shoot your way out. This time, laser beams appear from the bottom of the screen. These must be shot before reaching ground level or you will be teleported to another room in the castle!

Some rooms flip by 180 degrees as you enter the room - I liked this a lot; it is a fun addition to the game which makes travelling throughout the castle a little more challenging.

Also, in some rooms the lights will go out and you are randomly sent through one of the doors. This is NOT fun and can become VERY annoying after you've been returned through the same door five or six times!

FINDING YOUR WAY OUT

After finding all the keys and unlocking the code numbers, you must make your way to the castle exit (a large black circle with an "X" inside). Here you must enter the correct code by shooting the numbers. The numbers are taken in order from left to right and top to bottom on the grid map. After entering the code, your score is displayed and the game ends.

As you can see, Geisterschloss sounds like a great new action-packed game for the light-gun! However, before you rush out for your Eurocheque or DM's, I must say that although it sounds great, it isn't! That's the problem with this game - when you describe the gameplay it sounds like an enhanced version of Crossbow. Unfortunately, it is nothing more than a poor cousin!

The gameplay is let down badly by poor light-gun response. As you get closer to the left and right edges of the rooms, it becomes almost impossible to shoot correctly without sticking your light-gun about 5mm from the TV screen! No other light-gun game has this problem.

The graphics are colourful but they're not up to much. A good description is "blocky". Sound is basically the odd click, hiss or hum.

This game is definitely not for inexperienced game players! The game screens, especially the earthquake game, become VERY fast and, with the poor response from the light-gun, almost impossible for younger children. Although I personally liked this difficulty level, a range of easier settings would have been of benefit to younger game players.

Also, earthquakes occur far too often! After two or three of them they simply become annoying! However, I did like the teleporter game with its laser beams which sound like the car from Pole Position.

Geisterschloss is basically a hunt and shoot game. There's a lot of shooting! Shoot door, shoot ghost, shoot door, shoot rock, shoot door, shoot rock, shoot door, shoot laser beam, shoot door, etc., etc. Sounds boring? It is! The board-game section is neglected and doesn't add much to the game except to display your current location and the amount of keys held (easily remembered without all the fuss!).

AT THE END .. NOTHING!

At the end of the game, after battling your way through all of the rooms and entering the exit code, you are simply returned to the game option screens. There is no little cartoon; no picture; not even a big "Well done!". I hate it when games end like this!

I tried playing Geisterschloss with a friend to see if multiple-players would change my attitude to the game. Although it was slightly more fun, my opinion of the game itself remained unaltered. However, I can imagine it being more fun with three or four players in competition (although such a game will involve an awful lot of light-gun swapping).

In days gone by, I would have advised you to try Geisterschloss before you buy it. However, this is impossible today so I'd only recommend this game to those of you who have money to burn and are desperate for some new light-gun software. As a full-price game, Geisterschloss is, in my opinion, over-priced! True, I do like the effort spent on the packaging and game pieces, but the game itself is of budget quality (i.e. under five pounds). There simply isn't enough to this game to hold your interest for more than a few hours.

On the plus side, there is a very good Editor program on Side B of the disk. It is entirely keyboard controlled and very simple to use (there are on-screen instructions). Use CRTL-L and CTRL-S to load and save respectively. Also, use CRTL-C to check the grid before saving - I liked this part!

KE-Soft have released some great games in recent years, including Zebu-Land, Atomit II, Dredis, Sogon, Techno Ninja and Zador II. Unfortunately, as much as I'd like to, I cannot add Geisterschloss to this list.

Title:	**GEISTERSCHLOSS**
Publisher:	**KE-Soft**
Supplier:	**KE-Soft, c/o Kemal Ezcan**
Format:	**Disk (Light-gun required!)**
Price:	**£12.50 + £5 P&P**

As a footnote to this review, despite some negative remarks regarding Geisterschloss, I urge you to support Kemal Ezcan as soon as possible, otherwise he may soon become disenchanted with the Atari 8-bit! In my last KE-Soft list, Kemal mentioned that he accepts British pounds. Send a couple of International Reply Coupons for his lists, and please consider ordering something. We cannot afford to loose KE-Soft to the 16-bit market! Send to: KE-Soft, c/o Kemal Ezcan, Frankenstr.24, W-6457, Maintal 4 oder Telefon, Germany.-

Ian Finlayson's

TUTORIAL TIME

UNDERSTANDI[NG] TEXTP[RO]

I have had a letter from a fairly new Atari user who is having difficulty with the manuals which come on disk with some of the public domain software. I understand his problem. The manuals are usually written by the same author who wrote the program, and he must be very familiar with all aspects of the Atari Classic. This very expertise is a disadvantage when writing a manual as it is too easy to assume that the reader is also familiar with all the basics of using the Atari, and therefore the trap is to present the information about the program in a way that is incomprehensible to a newcomer who is just getting to grips with the practical use of his computer.

I have therefore decided to switch from BASIC tutorials to tutorials about the use of some of the practical programs in the Page 6 Public Domain Library. I will start with Textpro and will take two (or maybe three) issues to try and give a step by step guide to its use. This time I will cover the absolute basics.

INITIAL PREPARATIONS

Before you do anything else I strongly recommend that you make a backup copy of the Textpro program disk; also make sure that you have a blank formatted disk available for saving your documents. A duplicate Textpro disk can be made using DOS option J if you do not have any better program for this task. Just follow the prompts - it will take a bit of disk swapping. Remember this is a double sided disk so you need to duplicate both sides.

Side B of the disk has the Textpro documentation on it. If you wish to print out the documentation boot side 2, make sure your printer is on line and select which part of the documentation you want. The menu suggests there are 3 parts to the documentation:

1. Using Textpro (22 pages)
2. Keyboard Macros (9 pages)
3. Textpro extensions (6 pages)

Note that part 2. Keyboard Macros is on side A of the disk, so the disk must be turned over to print it. The print is well laid out, but on my Deskjet printer each page was slightly further down the page until eventually the bottom of one page ran over to the top of the next. Maybe it works out better on a sprocket feed dot matrix printer. You can also look at this documentation from within Textpro if you want to save paper as I will describe later.

KEY CONVENTIONS

Textpro uses quite a number of key combinations. I will use square brackets to indicate the various special keys on the Atari keyboard and a + to show where these are used in combination or in combination with any other alphanumeric character. For example [SELECT]+[CONTROL]+L means ***hold down*** SELECT ***and*** CONTROL and ***press*** L.

BOOTING UP AND GETTING STARTED

Now put away your original Textpro program disk, insert the duplicate in your drive and switch on your computer in the normal way. Do not hold OPTION as Textpro automatically disables Basic.

In this first article I will describe how to get started in Textpro and lay out a straightforward letter. I guess home word processors are used more for letter writing than anything else. Once you have a nice letter layout prepared in a form that pleases you it is easy to save it and use it again and again.

Once the program has loaded you will be presented with a rather daunting blank screen with one line of text across the top: "TEXTPRO 1.2a with Extension 2.5e" is what the latest version from the Page 6 library shows. This does not seem very helpful, but if you just launch in to a bit of typing you will find that you can enter text in a manner that is very similar to the normal Basic editor screen. Try experimenting a little - you will notice first that Textpro starts up with a different font from the one you are used to. The letters are rather squarer.

If you type to the right hand edge of the screen you will see that word wrap is automatic - any word which does not fit on the end of the current line will move to the start of the next. As with most word processors you can just keep typing till you reach the end of a paragraph, you should not put in a carriage return (or [RETURN] as it is on the Atari) at the end of a line. When you do use [RETURN] you will see a bent arrow symbol on screen.

If you press [DELETE BACK SPACE] it deletes the previous character (to the left of the cursor) while if you do the same with [CONTROL] pressed the character under the cursor is deleted. [CONTROL] with the arrow keys moves the cursor around the text.

When you have finished playing about and your screen is getting cluttered try [CTRL]+H - this moves your cursor to the Home position at the top left of the screen. Now press [CTRL]+D. The line at the top of your screen will go red and show the text *"Delete (S,W,P): RETURN to exit"*. You can delete text by pressing W to delete a word, S to delete a sentence (to the next full stop or exclamation mark or question mark), or P to delete a whole paragraph. Keep pressing P until you have a clear screen, then press [RETURN].

N DING

T PRO

```
                    60, Roundstone Crescent
                         East Preston
                    West Sussex    BN16 1 DQ

                                          10 December 1993
ADDRESSEE
GOES
HERE

Dear

Start of main text.


                         Yours sincerely,


                            Ian Finlayson
```

The sort of letter template you are aiming for. Of course you can vary the layout in any way you wish

A LETTER FORMAT

Now we will set up a letter. The default settings in Textpro are suitable for most printers which use American Quarto (8.5"x11") or A4 paper and for a normal "typewriter" font like Courier with a pitch of 10 characters per inch. If you press [OPTION]+9 you will see a rather jumbled screen showing the print commands with default values after a > symbol. The essentials are:

Columns across (that is page width in characters) 80
Left margin 5
Right Margin (measured from the left edge) 75
Page length (lines) 66
Top margin 5
Bottom margin (measured from the top edge) 58

These can be changed, but for now we will stick with the defaults. To get rid of the Print Command help screen press any key and you will be returned to the blank text screen. Don't be worried about remembering the [OPTION]+9 key press. Textpro is full of help, and pressing the [HELP] button on your computer will bring up the top level help screen which tells you how to find all the other help screens.

I apologise for continually wandering away from the main topic - laying out a letter - but I think it is probably easiest to introduce each concept in some detail as it arises. I am beginning to see why many instruction manuals are so unreadable, it is not easy to be thorough, clear and succinct at the same time! Now we will start.

Type [SELECT]+c at the same time and a small inverse c appears on your screen. This means "centre the text in this line between the left and right edges of the paper". Then type the first line of your address and end with [RETURN] (giving the bent arrow symbol). Then [SELECT]+c again and the second line of address and so on. The text does not move before your eyes as it would in a commercial "what you see is what you get" word processor, it stays at the left margin, but it will be centred on the page when you print. Centred text is not centred between the margins so if you move the margins, centred text will appear to be off to one side though it is still centred on the page. The inverse characters do not print.

After your own address put two [RETURN]s then [SELECT]+e and a date. Select e moves the text in that line across to align with the right margin. Then type two more [RETURN]s and then on successive lines "ADDRESSEE[RETURN] GOES[RETURN] HERE[RETURN]". Now type two more [RETURN]s and then "Dear [RETURN][RETURN]". Now type "Start of main text" and 3 or 4 [RETURN]s, [SELECT]+c "Yours sincerely", 5 or 6 [RETURN]s and your own name.

Now that we have created the bare bones of a letter form it is sensible to save it. Put a blank formatted disk in your drive and press [CTRL]+s the top line will show "*Save File>D:*". Type "lethead" (upper or lower case) and [RETURN] and the file will be saved to disk.

PRINT OUT

If you have an Epson or Epson compatible printer you can see how this looks in print by pressing [CTRL]+p, the top line on your screen changes to "*Print File>P:*". Make sure your printer is on line and press [RETURN]. If your printer is not ready Textpro will pause a few seconds and drop you back into the editor. Your printout should be like Figure 1. If your layout is not satisfactory you can make adjustments by putting control codes in the first line. The print commands help page is activated with [OPTION]+9. Some of these are a little complicated and I will come back to them later, but most are straightforward - just put in [SELECT]+*appropriate letter* then appropriate number. For example to move the right margin in from its default position (75) type [SELECT]+r followed by 60 (no spaces) and your text width will be reduced by 15 characters. Use the lower case letters - upper case does not work. Experiment with the letter format to set it up to your preferences. In the next issue I will go into some of the more fancy capabilities of Textpro.

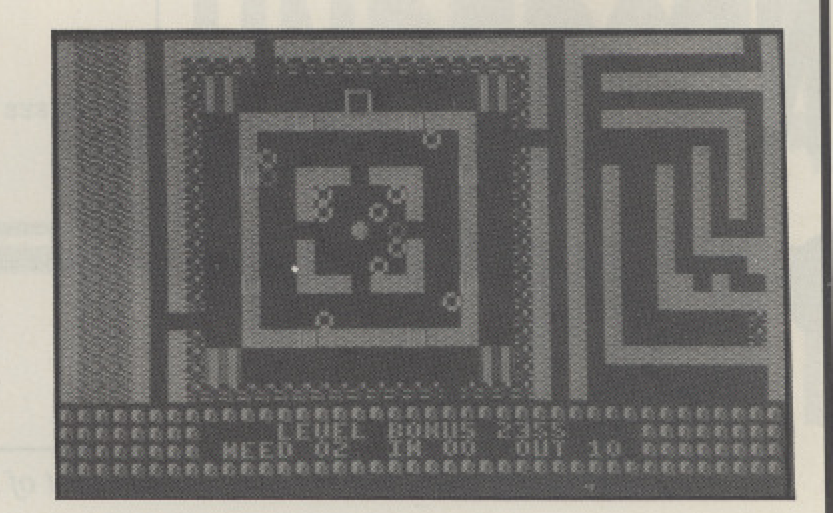
If you want to look at the Textpro documentation without printing it out you can load the files and use the [DOWN ARROW] to scroll through them. The main file can be loaded by inserting the Textpro disk with the back side upwards and typing [CTRL]+L, then TEXTPRO.PRT[RETURN], to read about keyboard macros or macro extensions use the file names MACRO.PRT or EXTEND25.PRN. These are printer files, not true Textpro files, so if you want a printout it is better to use the procedure mentioned earlier than to try printing from within Textpro.

If you have specific questions about Textpro please write to me with a SAE and I will try tó find an answer for you. My address is:

Ian Finlayson, 60 Roundstone Crescent, East Preston, West Sussex, BN16 1DQ

DISK BONUS

ARENA



A fully playable shareware version of a quality game by A. Guillaume

The object of the game is to get a set amount of Power Pods into the Exit on each level. The Pods come out of the pod bay at the start of each level and move around the playfield. When a Pod hits a wall it turns left and carries on, you must work out how to move the Pods to your best advantage. All you can do as the player is move a cursor on the playfield and Insert and Delete walls to influence the Pod's movement. The playfield scrolls up/down the screen to allow access to the rest of the level. If a Pod hits any of the moving scenery it is killed. The Exit is an opening/closing square, and several of these are located at the top right of level one.

Use a joystick in port 0 to control the cursor. The fire button will either insert a wall if the cursor is over a blank space or delete if it is over a destructible space. Your inserted walls are always destructible but most of the scenery isn't. You must get the required number of pods to the exit before the Bonus timer runs out.

Each level is loaded as required and has a different number of pods to get and bonus time limit. If the level is successfully completed the bonus time remaining is added to your score, otherwise a life is lost and the level is re-entered. You start with 3 lives.

At the end of each level the status screen is displayed and your score is calculated. The total of inserted/deleted blocks is subtracted from your score, so don't just go putting blocks everywhere if you want a high score! Each pod home scores 500 points.

You may see letters scattered in some of the levels. These are Bonus tokens and can be:

p - Extra Points
T - Extra Bonus Time
L - Extra Life
? - Any of above or Mystery Effect

Press SPACEBAR for PAUSE during the game, and ESC to quit.

After every tenth level a password is awarded. Press SELECT on the Title screen to enter a password. Enter a false password to begin at level one again.

Press SPACEBAR or wait at the Title screen to see the High score table.

Press FIRE button to start game.

THE NEW ATARI USER ISSUE 66 DISK

ARENA is the **BONUS** on the Issue 66 disk of New Atari User which also contains all of the other programs from this issue ready to run. Disk subscribers will receive their copy with the magazine but the disk is also available separately for just £2.95.

Send your cheque, postal order or Access/Visa details to PAGE 6, P.O. Box 54, Stafford, ST16 1DR or order by telephone using your credit card on 0785 213928

ARENA THE FULL VERSION

This version of **ARENA** is a fully playable demo version but with only 13 levels available while the full version has 50 lives - and a disk based High Score Table! One password has been included from the four available and is different from the full game.

The full version will challenge your skills to the limit and will keep you occupied for a long, long time. For a copy of the full version of the game please send a cheque for £5.00 (overseas please add £2 and remit in Sterling) to:

Visionaire Software, 30A High Street, Alcester, Warwickshire, B49 5AB ENGLAND

Please make cheques payable to A. GUILLAUME

Ian Finlayson's

TUTORIAL TIME EXTRA

THE CHALLENGE

In Issue 64 Ian Finlayson produced a challenge for any reader to write a program to solve a brain teaser - here is the winning entry

BUT FIRST, A PRINTER TIP

In issue 64 the Tutorial was about printing boxes. Henry Holder has sent me a tip for Seikosha printer owners. If you add the following line to the program it will work correctly on a SL-90 printer.

```
70 DIM P$(5) :P$(1,1)=CHR$(27) :P$(2,2)=CHR$(7) :P$(3,3)=
CHR$(27) :P$(4,4)=CHR$(116) :P$(5,5)=CHR$(1) :LPRINT.P$
```

THE COMPETITION

The clear winner of the challenge in Issue 64 with the only complete solution was Roald Sund from Trondheim in Norway. His solution is printed here. I am sure you budding BASIC programmers will learn something by tracing it through. I have added one line - line 512 - as I hate sitting watching a screen where nothing is happening - it is too tempting to break the program to see if anything has gone wrong! This program in particular can leave you wondering what is happening as there are 8008 possible combinations for the ten counters and the program has to search through them all. Line 512 is just a counter which runs at the top of the screen to show how the search is progressing.

I first tried this program under Atari BASIC to check it works correctly, but it was taking so long that I loaded Turbo BASIC and ran it again. With Turbo BASIC it does about 180 iterations per minute and takes approximately 45 minutes to check all combinations. Under Atari BASIC it does about 72 iterations per minute and would take about 1 hour 50 minutes. I also tried to compile the program in Turbo BASIC for real speed, but kept getting an error. Perhaps one of you Turbo BASIC experts can tell me why?

Well done Roald, your prize of Pinball Construction Set should be with you long before this issue is published.

```
EI 1 REM ********************************
NX 2 REM *       TUTORIAL TIME          *
XJ 3 REM *    BRAIN TEASER SOLUTION     *
AT 4 REM *    by ROALD SUND, NORWAY     *
EM 5 REM ********************************
DU 6 REM *   NEW ATARI USER - FEB 94    *
EO 7 REM ********************************
NN 8 REM
GD 10 DIM GRID(15),LINE(17),GRID$(16):COU
   NT=0
BK 20 OPEN #1,4,0,"K:"
TI 30 ? "Press 1 for maximum number of li
   nes   or 2 for minimum ";:GET #1,MAXMI
   N
BR 40 MAXMIN=MAXMIN-48:IF MAXMIN<1 OR MAX
   MIN>2 THEN 30
LL 50 CLOSE #1
LH 60 POKE 752,1:? CHR$(125);" Best so fa
   r:"
QG 70 MAX=0:MIN=18:ROW=2:COL=1
LP 100 FOR COUNTER1=0 TO 6
IW 110 FOR COUNTER2=COUNTER1+1 TO 7
LT 120 FOR COUNTER3=COUNTER2+1 TO 8
OQ 130 FOR COUNTER4=COUNTER3+1 TO 9
PJ 140 FOR COUNTER5=COUNTER4+1 TO 10
SH 150 FOR COUNTER6=COUNTER5+1 TO 11
VF 160 FOR COUNTER7=COUNTER6+1 TO 12
YD 170 FOR COUNTER8=COUNTER7+1 TO 13
BB 180 FOR COUNTER9=COUNTER8+1 TO 14
TM 190 FOR COUNTER10=COUNTER9+1 TO 15
UZ 200 FOR LOOP=0 TO 15:GRID(LOOP)=0:NEXT
    LOOP
IU 210 GRID(COUNTER1)=1:GRID(COUNTER2)=1:
   GRID(COUNTER3)=1:GRID(COUNTER4)=1:GRID
   (COUNTER5)=1
LB 220 GRID(COUNTER6)=1:GRID(COUNTER7)=1:
   GRID(COUNTER8)=1:GRID(COUNTER9)=1:GRID
   (COUNTER10)=1
BZ 230 LINE(0)=GRID(0)+GRID(1)+GRID(2)+GR
   ID(3)
UX 240 LINE(1)=GRID(4)+GRID(5)+GRID(6)+GR
   ID(7)
YO 250 LINE(2)=GRID(8)+GRID(9)+GRID(10)+G
   RID(11)
IV 260 LINE(3)=GRID(12)+GRID(13)+GRID(14)
   +GRID(15)
```

continued ☛

TUTORIAL TIME EXTRA

continued

```
RS 270 LINE(4)=GRID(0)+GRID(4)+GRID(8)+GR
   ID(12)
WV 280 LINE(5)=GRID(1)+GRID(5)+GRID(9)+GR
   ID(13)
YI 290 LINE(6)=GRID(2)+GRID(6)+GRID(10)+G
   RID(14)
CU 300 LINE(7)=GRID(3)+GRID(7)+GRID(11)+G
   RID(15)
QI 310 LINE(8)=GRID(2)+GRID(7)
TN 320 LINE(9)=GRID(1)+GRID(6)+GRID(11)
PS 330 LINE(10)=GRID(0)+GRID(5)+GRID(10)+
   GRID(15)
BA 340 LINE(11)=GRID(4)+GRID(9)+GRID(14)
YF 350 LINE(12)=GRID(8)+GRID(13)
SF 360 LINE(13)=GRID(1)+GRID(4)
KT 370 LINE(14)=GRID(2)+GRID(5)+GRID(8)
RC 380 LINE(15)=GRID(3)+GRID(6)+GRID(9)+G
   RID(12)
RF 390 LINE(16)=GRID(7)+GRID(10)+GRID(13)
DE 400 LINE(17)=GRID(11)+GRID(14)
MY 410 LINES=0:FOR LOOP=0 TO 17:IF LINE(L
   OOP)=2 OR LINE(LOOP)=4 THEN LINES=LINE
   S+1
MZ 420 NEXT LOOP
MC 430 IF MAXMIN=1 AND LINES<MAX THEN 500
MF 440 IF MAXMIN=2 AND LINES>MIN THEN 500
PR 450 FOR LOOP=1 TO 16:GRID$(LOOP)=CHR$(
   160-12*GRID(LOOP-1)):NEXT LOOP
PP 460 POKE 82,COL:POSITION COL,ROW:? LIN
   ES;" lines"
TG 470 FOR LOOP=1 TO 16 STEP 4:? GRID$(LO
   OP,LOOP+3):NEXT LOOP:?
GJ 480 COL=COL+10:IF COL>40 THEN COL=1:RO
   W=ROW+6:IF ROW>23 THEN ROW=23
NE 490 IF COL>1 AND ROW>17 THEN ROW=17
KZ 500 IF LINES>MAX THEN MAX=LINES
GH 510 IF LINES<MIN THEN MIN=LINES
HO 512 COUNT=COUNT+1:POSITION 27,0:? "TRI
   ES = ";COUNT;
PL 520 NEXT COUNTER10:NEXT COUNTER9:NEXT
   COUNTER8:NEXT COUNTER7:NEXT COUNTER6:P
   OKE 77,1
FY 530 NEXT COUNTER5:NEXT COUNTER4:NEXT C
   OUNTER3:NEXT COUNTER2:NEXT COUNTER1
XM 540 POKE 82,2:POKE 752,0
```


SPACE CHECK

SPACE CHECK is a "Mastermind" type game which uses redefined characters in the shape of spaceships instead of the conventional pegs or coloured squares. It is played on an Antic 4 graphics screen. The aim of the game is to duplicate a sequence of 4 pictures set by the computer in as few moves as possible. A correct picture in the wrong place is shown by a white symbol, while a black symbol indicates a correct picture in the right place. The purpose of these is to give you clues as to whether or not you are guessing in the right direction.

USING THE PROGRAM

On running the program you will see 4 spaceships in a line to the top left of the screen. Move the joystick up or down to select a different picture; move the stick left or right to pick different spaceships on the row. Press fire when you are happy with your selection for the whole line. The computer will then assess your guess and print a black spacecraft for each picture you got exactly right (i.e. correct ship, correct position) or a white spacecraft for each picture you got nearly right (i.e. correct ship, wrong position). The process continues on the second and subsequent rows until you either guess correctly (you win) or you run out of screen (you lose). A panel to the right of the screen shows your score - this is based on how quickly you can crack the sequence. You are given a "go again" option after 3 rounds of play.

by

Ann O'Driscoll

and

Phil Cardwell

```
HY 10 REM *******************************
SH 20 REM *          SPACE CHECK          *
EH 30 REM *               by              *
TJ 40 REM *       Phil Cardwell &         *
ET 50 REM *       Ann O'Driscoll          *
CV 60 REM *-----------------------------*
CF 70 REM * NEW ATARI USER - AUG 1993   *
IF 80 REM *******************************
ZR 100 DIM CC$(1024):GOSUB 650
SM 110 PIC=150:UPDN=180:CHECK=400:SCORE=0:GAME=1
DG 120 DIM P$(2),A$(12),DA$(13):A$="abcdefghijkl":DA$(1)="o":DA$(13)="o":DA$(2)=DA$
MH 130 DIM A(3),Z(1,3),E$(10),F$(10):E$="qrrrrrrrrs":F$="urrrrrrrrv"
MJ 140 GOTO 210
VL 150 REM  DRAW SYMBOL ROUTINE 
NF 160 POSITION C,R:? P$:SOUND 0,PP,10,12:FOR D=1 TO 50:NEXT D:SOUND 0,0,0,0:RETURN
RZ 170 REM  MOVE UP/DOWN ROUTINE 
DY 180 P=A((X2-1)/3):P=P+2*(S=14 AND P<7)-2*(S=13 AND P>2):P$=A$(P,P+1)
RD 190 C=X2:R=Y2-1:A((X2-1)/3)=P:GOSUB PIC:RETURN
ZU 200 REM  GAME SCREEN BIT 
LD 210 GRAPHICS 0:POKE 82,0:POKE 752,1:P=1:R=-2:Y2=-1:POKE 756,MTOP
JL 220 POKE 708,122:POKE 709,14:POKE 710,0:POKE 712,6
FF 230 DL=PEEK(560)+256*PEEK(561):POKE DL+3,PEEK(DL+3)+2:FOR N=6 TO 28:POKE DL+N,PEEK(DL+N)+2:NEXT N
DU 240 FOR N=0 TO 3:A=INT(RND(0)*7)+1:IF A/2=INT(A/2) THEN A=A+1:IF A=8 THEN A=1
DG 250 Z(0,N)=A:Z(1,N)=A:A(N)=1:NEXT N
XV 260 FOR N=0 TO 10 STEP 10:POSITION 29,N:? E$:POSITION 29,N+9:? F$:NEXT N
NT 270 FOR N=1 TO 11 STEP 10:FOR M=0 TO 7:POSITION 29,M+N:? "t":POSITION 38,M+N:? "w":NEXT M:NEXT N
LP 280 POSITION 31,4:? "SPACE":POSITION 31,5:? "CHECK"
OR 290 POSITION 31,13:? "ROUND":POSITION 33,14:? GAME:POSITION 31,16:? "SCORE":POSITION 33,17:? SCORE
XY 300 FOR N=0 TO 19:POSITION 13,N:? "p":NEXT N
ZD 310 R=R+2:P$=A$(1,2):PP=60:FOR C=1 TO 10 STEP 3:GOSUB PIC:NEXT C
WD 320 X2=1:Y2=Y2+2:GOTO 380
ZQ 330 IF  NOT STRIG(0) THEN GOTO CHECK
LS 340 S=STICK(0):PP=80:IF S=15 THEN 330
EZ 350 IF S=13 OR S=14 THEN GOSUB UPDN
PB 360 X2=X2+3*(S=7 AND X2<10)-3*(S=11 AND X2>1)
SN 370 POSITION X1,Y1:? "  "
ZO 380 POSITION X2,Y2:? "mn":X1=X2:Y1=Y2:GOTO 330
IZ 390 REM  CHECK ROW BIT 
VF 400 T=0:TT=0:FOR N=0 TO 3:IF A(N)=Z(1,N) THEN T=T+1:Z(1,N)=-1:A(N)=-1
HU 410 NEXT N
FO 420 FOR I=0 TO 3:IF A(I)=-1 THEN NEXT I:GOTO 450
MV 430 FOR J=0 TO 3:IF A(I)<>Z(1,J) THEN NEXT J:NEXT I:GOTO 450
JL 440 TT=TT+1:Z(1,J)=-1:POP :NEXT I
BG 450 IF  NOT T THEN 480
VM 460 P$=A$(9,10):PP=40:FOR N=1 TO T:C=13+3*N:GOSUB PIC:FOR D=1 TO 30:NEXT D:NEXT N
CJ 470 IF T=4 THEN 540
IW 480 IF  NOT TT THEN 500
VW 490 P$=A$(11,12):PP=120:FOR N=1 TO TT:C=13+3*T+3*N:GOSUB PIC:FOR D=1 TO 30:NEXT D:NEXT N
ZI 500 FOR N=0 TO 3:Z(1,N)=Z(0,N):A(N)=1:NEXT N:FOR N=0 TO 15 STEP 15:POSITION N,R+1:? DA$:NEXT N:IF Y2<19 THEN 310
PH 510 REM  PLAYER LOSES 
IC 520 PP=200:R=Y2+1:FOR N=0 TO 3:A=Z(0,N):P$=A$(A,A+1):C=N*3+1:GOSUB PIC:NEXT N:GOTO 570
KK 530 REM  PLAYER WINS 
JU 540 SCORE=SCORE+1:IF Y2<13 THEN SCORE=SCORE+1:IF Y2<9 THEN SCORE=SCORE+1
AQ 550 POSITION 33,17:? SCORE
CF 560 REM  ROUND OVER 
WE 570 GAME=GAME+1:IF GAME>3 THEN 620
XD 580 POSITION 9,22:? "PRESS FIRE"
ZI 590 IF STRIG(0) THEN 590
MG 600 GOTO 210
HC 610 REM  PLAY AGAIN BIT 
HC 620 POSITION 5,22:? "PRESS Y TO PLAY AGAIN":CLOSE #3:OPEN #3,4,0,"K:"
WX 630 GET #3,K:IF K=89 THEN RUN
HN 640 GRAPHICS 0:POKE 82,2:POKE 752,0:CLR :END
VB 650 MTOP=PEEK(106)-4
ZW 660 POKE 106,MTOP-4:GRAPHICS 0
CW 670 D=PEEK(140)+PEEK(141)*256:R=PEEK(134)+PEEK(135)*256
XH 680 Q=MTOP*256-D:R1=INT(Q/256):T=Q-R1*256
OP 690 POKE R+2,T:POKE R+3,R1
EK 700 CC$(LEN(CC$)+1)="♥♥♥♥♥♥♥♥♥♥♥┴┴┴┴♥┴♥♥fff♥♥♥♥♥♥f◘ff◘f♥┴>♦</|┴♥♥f1┴0fF♥↑6↑8of;♥♥┴┴┴♥♥♥♥♥_↑┴┴↑_♥♥p8┴┴8p♥"
XA 710 CC$(LEN(CC$)+1)="♥f<◘<f♥♥♥┴┴(┴┴♥♥♥♥♥♥♥┴┴0♥♥♥(♥♥♥♥♥♥♥♥♥♥♥┴┴♥♥/▘┴0♦@♥♥?3333?♥♥▘<▘▘▘?♥♥?3┘?0?♥♥?┘▖┘3?♥"
TI 720 CC$(LEN(CC$)+1)="♥0033?┘♥♥?0?┘3?♥♥?0?33?♥♥?┘┘┘┘┘♥♥?3?33?♥♥?3?┘┘?♥♥♥┴┴♥┴┴♥♥♥┴┴♥┴┴0/▘┴0┴▘/♥♥♥(♥♥(♥♥"
FN 730 CC$(LEN(CC$)+1)="♦0┴▘┴0♦♥♥<f▘┴♥┴♥♥<fnn♦>♥♥?33?33♥♥?3?33?♥♥?3003?♥♥<3333<♥♥?0<00?♥♥?0<000♥♥?0033?♥"
UV 740 CC$(LEN(CC$)+1)="♥33?333♥♥?▘▘▘▘?♥♥?┘┘┘3?♥♥33?<33♥♥00000?♥♥3?3333♥♥?33333♥♥?3333?♥♥?33?00♥♥?3333?▘"
RB 750 CC$(LEN(CC$)+1)="♥?33<33♥♥?0?┘┘?♥♥?▘▘▘▘▘♥♥33333?♥♥3333?▘♥♥3333?3♥♥33▘▘33♥♥33?▘▘▘♥♥?┘▖<0?♥♥←┴┴┴┴←♥"
DX 760 CC$(LEN(CC$)+1)="♥@♦0┴▘/♥♥x┴┴┴┴x♥♥◢↑6c♥♥♥♥♥♥♥♥♥♥◘♥├├AQUQA├♥♥ePUPe♥┘┘┘┘┘┘┘┘┴┴┴┴XX♥♥♥┴┴┴┴XX┴┴┴♥♥♥XX┴┴┴┴"
IO 770 CC$(LEN(CC$)+1)="┘╲_↑8p◘@@◘p8↑_╲┘├┘╲+?◘♥♥♥♥▖▖▖♥@♦px◘◘▖▖▖♥♥♥♥pppp♥♥♥♥◘◘♥♥♥♥♥♥♥♥♥♥♥♥♥♥◘◘♥♥♥♥♥pppp"
VB 780 CC$(LEN(CC$)+1)="♥↑↑ww◢↑♥♥♥♥♥→→┴┴┴┴♥♥♥◘◘♥♥♥♥┴┴┴┴◘◘┴┴┴┴♥♥<(((<♥♥♥♥♥♥◘◘◘◘eeeeeee@♥♥♥◘◘┴┴┴┴┴┴┴┴◘◘♥♥♥pppppppp"
CC 790 CC$(LEN(CC$)+1)="┴┴┴→→♥♥♥x♦x♦(┴←♥♥┴<(┴┴┴♥♥┴┴┴┴(<┴♥♥┴0(0┴♥♥♥♥┴▘(▘┴♥♥♥♥┴<((<┴♥♥♥┌UU┌♥♥▄TPUUPT▄├AQUUQA├"
DF 800 CC$(LEN(CC$)+1)="♥ePUUPe♥U┤▄UU▄┤ue♥┤UU┤♥e♥┤●UU●┤♥UU●TT●UU♥┘?3◘◘▘♥♥@◘L◘◘0♥♥├◘◘◘◢♥♥◘◘◘◘◘ ♥♥♥┘┘┘▖??"
XU 810 CC$(LEN(CC$)+1)="♥♥@@@p◘◘♥♥◘◘◘♥♥♥┘┘┘┘┘┘┘┘♥♥♥▄▄♣♣♣♥♥♥♥UU♥♥♥♥♥♥♥TT┤┤┤♣♣♣♣♣♣♣♣♣♣♣♣▄▄♥♥♥┤┤┤TT♥♥♥┤┤┤┤┤┤┤┤"
XG 820 CC$(LEN(CC$)+1)="♥♥f<┴<f♥♥♥fff>▘x♥♥(▘┴0(♥♥┴<((┴<♥┴┴┴┴┴┴┴┴┴┴┴♥(x|nf/♥◢┴8x8┴◢♥♣┴↑←↑┴♣♥"
EW 830 CC$(858,858)=CHR$(34):POKE 756,MTOP:RETURN
```



Well Christmas has come and gone and I hope you had a very nice one and that Father Christmas brought you everything that you wanted. I presume that we all over indulged in the Season's spirits, I know I did, I'm still trying to sleep it off! Anyway this isn't getting the work done so it's time we got on with the order of the day and produced another Tipster column.

TAYLOR'S TIPS

A few words first to Paul Taylor of Gateshead before we get on with his tips. I have finished that book, I have to get up to go to University and the radio's on Radio One. There you see it does pay to ask questions!

Paul's gems are many so here we go.

TOMAHAWK

On **TOMAHAWK** how do you control the RUDDER and select NEXT (TARGET, BEACON and HELIPAD)? Simple, says Paul, you use the keys in the inlay. Ah yes but try a joystick in port 2 and see what you get. Ah ha! the left and right are the rudder controls and the fire button is the NEXT button. Good or what? (Paul can't remember what the up and down do as it's been a long time since he last played this game).

SCREWY TAPES

Ever had your favourite tape game go screwy on you? You know the scene, happily loading and then all of a sudden **BOOT ERROR** at the same point every time. Well all is not lost, simply copy the tape on a tape to tape deck. Remember that this copy is purely for your use and should not be given, lent, or loaned to anyone else. Paul managed to get **AMERICAN ROAD RACE** working again after the coffee incident. The backup loads quite well. He also used this on **KNIGHT ORK** which had thrown a wobbler. Remember that you must keep the TREBLE *high* and the BASS *low*.

JET BOOT JACK

Play on the Practice (P) levels and it's easier to unlock the screens. Once unlocked, you can play a screen on any level up to 5.

ELECTRIC STARFISH

CLOAD the game and then when it is loaded list 1030. Look for the bit which says A903 in the data. Change 03 to (for example) 0A. Change the number after the comma at the end of the line to end with 77 instead of 70, then press RETURN. Run the program and you now have 10 lives ($0A). Other values up to FF are legal but remember to change the checksum. For example $20 (from $03) lives requires 99 (changed from 70) as the last two digits.

TURBO CHARGER OR TURBO CHANGER?

Paul says that Rambit (as used in Derek Fern's Turbo Loader) is handy for adding extra lives, time etc. to games. Paul has changed **ZYBEX**, **PREPPIE**, **AZTEC**, **CLUMSY COLIN**, **TIGER ATTACK** and more besides. Paul says that he is working on the bug in Rockford but he's progressing slowly, not helped by the fact that he can't write a disk header for a program that he coded to help him.

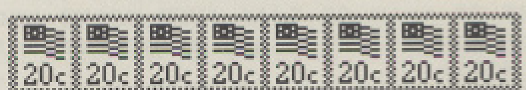
MORE PLEASE PAUL! I would like to hear more from you Paul on how to do these alterations to the above games so that they can be included in this column.

TWILIGHT WORLD

To complete level one of **TWILIGHT WORLD** you will have to follow Toby Knowles of London instructions that are short, precise and easy to follow. Ready? O.K. lets go!

Go up to the top, go right and collect the key. Now go back down to the bottom. Finally, go left and take the 5th door from the right (it's the one with no keys in it).

There I told you it wasn't very complicated.



MORE LETTERS .. MORE LETTERS .. MORE LETTERS ..

Paul Taylor would like help on **KNIGHT ORK** (PART ONE) He'd like a solution and I know that at least one of you out there has the game so get going and win the Tipster of the Issue award.

Denise Ward of Auckland in New Zealand has dropped me a line (hi! I did think of you on Christmas Day 13 hours early cooking your turkey in the heat of the mid day sun!!!). Denise would like hints and tips on Level 8 of **MEDIATOR** the one after the one with the two portraits, as she has absolutely no idea what to do and loses all of her lives trying to find out. Also she would information on any games that have 4 players on screen at once, either 48K or 64K.

FILE SEGMENTER

We have received a surprising number of enquiries over the years from readers who want to split up large files to fit into their favourite word processor. David Sargeant comes to the rescue with just the program

When I get new software, the accompanying document files are usually in the wrong format for my printer and using DOS to print them gives an unsatisfactory result. I prefer to load these files into my Word Processor, re-format them and print them correctly, although I sometimes have problems handling large document files because they do not fit into my Word Processor's text buffer. I now use File Segmenter to divide the offending file into manageable portions.

Before running the File Segmenter program make sure that you have enough disk space to take the segmented document file. You need about the same amount of empty sectors that the original file occupies. The size of each section is set in the variable BSIZE and is currently at 16K. You can alter this if you wish depending on your system's memory and the size of the text buffer in your Word Processor.

When you run the program just follow the on-screen prompts to enter the name of the source file and to insert the source or destination disks. Each segment is written along with its segment number and stored under the name SEGMENT.(#).

```
EX 1 REM ######################################
LP 2 REM #         FILE SEGMENTER             #
NK 3 REM #       by David Sargeant            #
CO 4 REM #   ------------------------------   #
UL 5 REM #        NEW ATARI USER              #
HD 6 REM #         January 1994               #
FD 7 REM ######################################
NN 8 REM
ME 100 REM INITIALISE
ST 110 GRAPHICS 0:POSITION 8,0:? " DISK F
   ILE SEGMENTER ":?
SP 120 BSIZE=16384:DIM BUFFER$(BSIZE)
YR 130 DIM MC$(39),FILENAME$(12),FILEIN$(
   14),FILEOUT$(14),DUMMY$(1)
WP 140 FILEIN$="D:":FILEOUT$="D:SEGMENT.?
   "
WM 150 BUFFER$(1)=" ":BUFFER$(BSIZE)=" ":
   BUFFER$(2)=BUFFER$
QX 160 BUFFER=ADR(BUFFER$):SEGMENT=1
SN 170 FOR I=1 TO 39:READ A:MC$(I,I)=CHR$
   (A):NEXT I
EJ 180 REM GET FILE NAME
SI 190 ? :? "Enter file name D:>";:INPUT
   #16;FILENAME$:FILEIN$(3)=FILENAME$
JO 200 REM INPUT/OUTPUT
AP 210 OPEN #2,4,0,FILEIN$
SN 220 ? :? "Insert source disk, press RE
   TURN";:INPUT #16;DUMMY$
WJ 230 BYTES=USR(ADR(MC$),32,7,BUFFER,BSI
   ZE):EOF=(BYTES<BSIZE)
UO 240 FILEOUT$(11,11)=STR$(SEGMENT)
VF 250 ? :? "Insert destination disk, pre
   ss RETURN";:INPUT #16;DUMMY$
NW 260 OPEN #3,8,0,FILEOUT$:? #3;"Segment
    ";SEGMENT
HP 270 ? "Writing segment ";SEGMENT:BYTES
   =USR(ADR(MC$),48,11,BUFFER,BYTES):CLOS
   E #3
IX 280 IF  NOT EOF THEN SEGMENT=SEGMENT+1
   :GOTO 230
OR 290 CLOSE #2:? :? "Completed":END
BE 300 REM DISK INPUT/OUTPUT DATA
QG 310 DATA 104,104,104,170,104,104,157,6
   6,3,104,157,69,3,104,157,68
JQ 320 DATA 3,104,157,73,3,104,157,72,3,3
   2,86,228,189,73,3,133
IE 330 DATA 213,189,72,3,133,212,96
```

DON'T LET THE TIPSTER FADE AWAY!

(As Garry Glitter would say)

COME ON ... COME ON

As you can see this issue is not as long as I would like but I only got three letters and there is only so much else that you can write in support of them. The only thing that I can say is that I need your letters and maps to keep this column going. Remember that this is your column and whatever you send in will appear in the column. (If I don't get something from you I'll print all of the lyrics to the Garry Glitter song next time!)

Send in all those letters that you have, along with the maps, to :

THE TIPSTER
NEW ATARI USER
PAGE 6 PUBLISHING
STAFFORD
ST16 1DR

FREE CASSETTES!

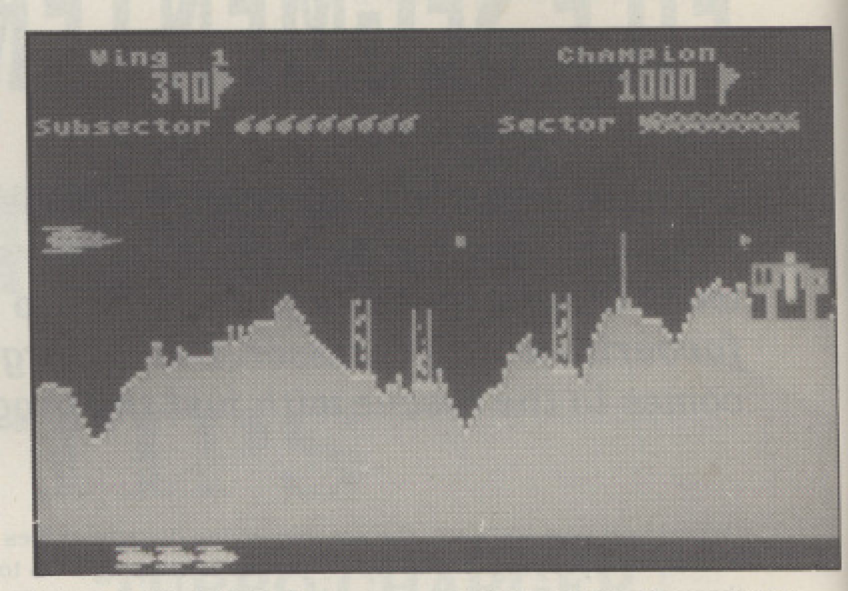
If your hint, tip or map is used by The Tipster you can claim a FREE CASSETTE (from those currently available from The Accessory Shop) but you won't get one if you don't send something to The Tipster - get tipping now!

HOW TO CLAIM

If you see your name in this column just drop us a line and say 'My name is ..... and I claim my free Tipster cassette' and simply tell us which cassette you would like (give an alternative just in case). We will whip it off to you poste haste (or straight away). If you prefer you can always give us a ring instead on the usual number

SOFTWARE CLASSICS

Mark Stinson begins a new series of reviews that concentrates on games that have become 'classics' in the world of the Atari Classic. Many of the classic games for the Atari are long gone but the difference in this series is that all of the titles reviewed are still available - and no collection will be complete without them!



The Tail of Beta Lyrae - one of the few games that has absolutely everything!

THE TAIL OF BETA LYRAE

The Tail of Beta Lyrae is a game which is well known to most long standing Classic owners. It will run on all formats: 400/800 & XL/XE and is available from Page 6 on disk and cassette. The game was released back in 1983 by Databyte and is probably one of the few games most of us go back to time after time. The game is of a similar nature to the arcade game Scramble which was a huge success. Other variations are available, such as Air Strike. Of its genre, this is in my opinion the best of its kind. At 95p on cassette and £1.95 on disk it simply can't be missed.

The game story is well thought out, and instructions for play are given in the packaging and on the disk. The box is a slim plastic sleeve which helps greatly with neat storage.

The Tail of Beta Lyrae is set in a dust and plantetoid tail of the stellar twins Beta and Lyrae. The tail of the stars were a result of escaping gas and dust from the violent gravitational interaction of the twin bodies. The gas and dust combine with remnants of the system's inner planets, which, due to unstable orbits, had exploded eons before. The result was an outer tail teeming with planetoids of various sizes.

Colonists made settlements on these planetoids and mined them for precious metals which are to be found deposited in large quantities. In recent times a nomadic race of aliens have taken occupation of the tail, after continuous attacks on the colonists. Survivors are now terminated on site. As if you didn't know already, your job is to destroy the alien war machine and return the colonists to their rightful place.

In the game you play the part of a Galactic Wing Commander assigned to the Beta Quadrant. The mission will take you through a myriad of terrains, and will pit your wits against a plethora of different hazards. Your battle for each quadrant takes you through a mountainous terrain, through caverns, and over city settlements. If you survive for long enough, the computer will locate and take you to the alien power generators. With their power source at your mercy the aliens flee, and you get the opportunity to destroy their retreating fleet. You will then be taken to the next nearest alien presence. As you travel to the sector you will again need all of your skill to navigate through the debris of the tail.

The program allows you to choose from up to four players, five or seven wings (ships), and six levels. I have only ever played at the lowest level and I dread to think how difficult the higher levels must be. There are many targets to destroy during your mission, including communication antennae, alien vessels, plasma cannons, command centres, mining installations, lasers, missiles, asteroids, scanners and alien outposts. Points are obtained for destroying any alien installations and hardware, although the main task is to survive through the sections of the quadrant to find the alien power generators. Some great effects are employed in the game, with large explosions on destroying the bigger targets. You have to be careful not to destroy any target at too close a range though, or you may be destroyed by the debris.

REVIEWED THIS ISSUE

THE TAIL OF BETA LYRAE	AIR RESCUE	FOOTBALL
Publisher: Databyte	Publisher: Atlantis	Publisher: Atari
Price: £1.95/95p	Price: £2.95	Price: £7.95
Disk or Cassette	Cassette only	ROM only

All these titles are currently available from the PAGE 6 ACCESSORY SHOP and some may be available from other advertisers

The game is great to play, and has a high addiction factor, but it is by no means easy. Points are lost each time you fire, and it is very easy to blast away all your points very quickly early on in the game. Some of the obstacles presented during the game are very difficult to pass. For example, cannons fire vertically from the ground and are very often protected by mountains. To pass these particular nasties takes some considerable skill. Worse still are certain weapons which cast out a huge gravitational force which pulls you towards them at high speed. If you hit them, or any object in between, you are obliterated. There are also a number of indestructible barricades which can make navigation a nightmare. The gameplay is also very fast which makes each mission all the more challenging. The game makes good playing for novices and experts alike, and will just keep you coming back for more.

So, if you think you're up to the challenge strap yourself into the cockpit of your wing, put your pilot skills and warrior skills to the test and destroy the enemy. Remember, only a few have what it takes to make the mark, and you are the Galactic Wing Commander.

In the Tail of Beta Lyrae you get excellent gameplay, superb graphics, fast action, and good sound effects and music. Add to this the incredibly low price and it's a sure fire winner. Buy it now.

AIR RESCUE

Air Rescue is an excellent budget game from Atlantis, featuring you as a helicopter pilot charged with the task of rescuing expatriate Britons from the midst of civil war. The cassette inlay informs you that 'peace has been shattered as the Military Junta moves against the popular uprising. Civil war rages, forcing expatriate Britons into hiding to escape the guns, tanks and missiles of the opposing armies. There is only one way to get them out - AIR RESCUE'.

The game is similar to one or two other games in which your task is to air lift survivors whilst avoiding enemy fire - most notably Choplifter by Broderbund. After having played Air Rescue for only a matter of minutes it became obvious that this one is by far the most well implemented version, and definitely worth buying even if you, like me, already own one of the other similar games.

Air Rescue has clear, colourful, well defined graphics, adequate sound effects, and a simplicity of play that makes the game a winner from the start. Small touches such as the ground shaking when the chopper is hit also add atmosphere to the game. There are ten levels of increasing difficulty, the latter of which will keep the most seasoned of games players challenged. Level 0 presents a screen which comprises a home base (the Hospital), trees, shrubs, houses and land based artillery. The object of the game is to navigate the helicopter near enough to houses to land and pick up the Britons whilst avoiding the scattered objects mentioned, plus gunfire. Level 0 did not present much of a challenge, and after one or two collisions with trees and the like, I completed the rescue and moved on to level 1. At this point I wished I had stuck to adventuring! I found myself under fire from the artillery, from tanks, and from deadly missiles. On top of this, flocks of birds sent my chopper flying about madly in an effort to keep it in one piece. The game kept me coming back for more and I am now up to level four, in which the computer presents a strengthened force with much more fire power.

In summary, I would not hesitate to recommend this one to any games fan, especially at the price. You can't lose. Good news also for disk drive owners is that this one is Transdiskable - XTMENU, non standard read, default settings.

FOOTBALL

(the American version)

Football is one of the later releases of Atari Corp. under their series RealSports ™. It is a simulation of American football, into which a great deal of material has been absorbed - mainly a very extensive set of rules and play formations.

Before playing Atari Football I knew very little about the game, other than that it appeared similar to rugby except that the ball is thrown forwards rather then backwards. Basically, the object is to beat the opposing team by scoring touchdowns in the End Zone, field goals and safeties. The first two scoring methods are equivalent to a try and conversion in rugby. I am not completely clear on a safety, but it has something to do with the defensive player furthest back on the field. Needless to say, there are a lot of rules to digest, especially if you know little or nothing about American football, but it is well worth the effort when you get to play the game.

Football is very unusual as games go. The difference with Football is that it is designed specifically as a two player game. There is a player v computer option, but it is not a full game, rather a practice forum in which you can learn set moves and the art of passing. The game therefore requires two joysticks, even in the player v computer option (you alternate between the two teams - the computer controls all defensive actions).

The game commences with options for a full game or practice game. Game length can be set at six minute or fifteen minute quarters. Once you commence play you must select your offensive formation out of fifteen variations. The defence then chooses a formation from five variations and the action begins.

First the ball is 'snapped', or passed to the Quarterback. The Quarterback changes colour and you gain control of his movements. It is up to you to select where you wish to throw the ball, and your aim is to direct the ball to a runner at one or other side of the pitch. Once the ball reaches your other player (if it isn't intercepted) then your control switches from the Quarterback to the receiver. You must keep the ball moving towards the opposition's End Zone where you can score a touchdown or field goal. The defence will be relentless in trying to prevent this, and if you fail to advance ten yards in four plays, you lose the ball.

The instructions for the game are quite comprehensive, and even include a playcard giving details of offensive/defensive plays and tactics which is placed between the two players. The game is certainly novel, however, in order to get the most out of it you must have a partner to play with.

reviewed by
Mark Stinson

BEYOND THE WINDOW

Every point on your Atari's graphics or text screen has its own memory location in RAM. Different graphics modes use different amounts of memory so the size of the "screen RAM" area varies with the graphics mode. However, it always begins immediately above the display list and you can find the starting memory location with

PEEK(88) + 256*PEEK(89)

TABLE 1 shows the amount of screen RAM used by the different graphics modes. It can be seen that there is a huge variation in memory usage, with high resolution screens such as Graphics 8 (192 lines at 40 bytes per line) needing 32 times as much memory as a low resolution mode like Graphics 2 (12 lines at 20 bytes per line).

All the points on your text window screen are stored in RAM too. The pointers for this area are at locations 660 (low byte) and 661 (high byte), so

PEEK(660) + 256*PEEK(661)

gives you the starting address. In all modes, the text window screen begins above screen RAM at memory location 40800 and uses 160 bytes (4 lines of Graphics 0 at 40 bytes per line). This brings you to the top of RAM at memory location 40960 (called RAMTOP).

TABLE 1
SCREEN RAM BY GRAPHICS MODE

GRAPHICS MODE	NUMBER OF BYTES FULL SCREEN	SPLIT SCREEN*
2, 3	240	200
1, 4, 13	480	400
0	960	-
5, 12	960	800
6	1920	1600
7, 14	3840	3200
9, 10, 11	7680	-
8, 15	7680	6400

* plus 160 bytes for the window

SAVING AND LOADING SCREENS

PROGRAM 1 uses the information we have on screen RAM to show how a graphics screen can be saved to disk and then loaded back in again. The program selected communications channel number 1, which uses memory locations 848 to 863, for output (saving) and input (loading). The routine beginning at LINE 500 is used to move the screen data. LINES 510-520 POKE values into some of the channel's memory locations, while the machine code sequence at LINE 530 takes care of the actual data transfer. The I/O channel bytes are altered as follows:

START+2: We must tell the computer whether we're putting (saving) or getting (loading) data. POKE an 11 to put data, or 7 to get data. These variables are defined in LINES 210 (saving) and 410 (loading).

START+4 AND START+5: We give the computer the starting memory address that the data is to be transferred from (saving) or to (loading), in low byte/high byte order. In our case, this will be the PEEK(88) (low byte) and PEEK(89) (high byte) memory locations, as this is where screen RAM begins.

START+8 AND START+9: We tell the computer how much data is to be transferred by POKEing in the low byte and high byte respectively of the number of bytes being moved. The program uses the difference between RAMTOP and screen RAM start to tell us this (LINES 240 (saving) and 440 (loading), although not all these bytes are used - For instance, a Graphics 7 screen occupies locations 36960 to 40159 (3200 bytes, as shown in Table 1), so there are 640 free bytes before text window RAM starts at 40800. These bytes are used for screen RAM in Graphics 7+16, where there is no text window. LINE 520 converts the bytes figure into the highest whole number divisible by 256 (the high byte) and the remainder (the low byte).

V

Ann O'Driscoll gets to grips with the part of memory you see each time you use your Atari and shows you how to perform a trick or two

The colours and graphics mode are transferred using BASIC, at LINES 220-230 and 420-430. This listing uses a Graphics 5 screen, which can be amended by changing LINE 110. As might be expected, the high resolution modes take up much more space on the disk than the low resolution ones. For instance, a Graphics 7 screen uses 33 sectors (as against 10 sectors for our Graphics 5 one here).

```
JD 100 REM  PROGRAM 1: SCREEN SAVE/LOAD 
QS 102 REM
NS 109 REM  - DRAW SCREEN FIRST 
ME 110 GRAPHICS 5:POKE 752,1:FOR ROW=0 TO
    39:COLOR ROW:PLOT 0,ROW:DRAWTO 79,ROW
   :NEXT ROW
LK 120 ? "▸↓   PRESS A KEY":POKE 764,255
AU 130 IF PEEK(764)=255 THEN 130
LV 200 REM  SAVE ROUTINE 210 - 250 
QT 202 REM
NH 209 REM  OPEN CHANNEL #1 FOR OUTPUT 
DY 210 CLOSE #1:OPEN #1,8,0,"D:PICTURE":F
   =11
AV 219 REM  SAVE GRAPHICS MODE 
YK 220 PUT #1,PEEK(87)
ET 229 REM  SAVE COLOURS 
DY 230 FOR N=704 TO 712:PUT #1,PEEK(N):NE
   XT N
GH 239 REM  FIND BUFFER SIZE: -  Amount o
   f bytes to be saved is area between sc
   reen RAM start and top of RAM
GS 240 RAMTOP=PEEK(106)*256:SC=PEEK(88)+2
   56*PEEK(89):BYTES=RAMTOP-SC+1
BT 249 REM  CALL UP TRANSFER ROUTINE 
TB 250 GOSUB 510
RT 309 REM  - BACK TO GRAPHICS 0 
EN 310 GRAPHICS 0:POKE 752,1:POSITION 2,1
   0:? "▸YOUR GRAPHICS SCREEN":? "▸HAS BE
   EN SAVED ON DISK"
```

INTERNAL CODES AND WRITING TO SCREEN RAM

The numbers held in the screen RAM memory locations are the Atari internal codes for the characters. These codes are derived from the order in which the characters are stored in ROM. They are not the same as the ASCII characters but it is possible to convert from one to the other, as shown in Table 2. In practice, the codes works like this: Suppose you print the letter "A" somewhere on your screen. If you PEEK the RAM location which holds this point you'll get the value 33, because this is the internal code for "A" (i.e. 65 - 32; see Table 2). You can also print things on the screen by POKEing directly to screen RAM. Again, you must POKE the internal code rather than the ASCII value of the character.

PROGRAM 2 modifies a Graphics 7 display list to include a line of Graphics 0 and then uses screen RAM to display the text message. LINE 120 changes the 36th row (DL+40) into a Graphics 0 line, and LINE 220 calculates where screen RAM begins for the modified line: Each Graphics 7 line gets 40 bytes. The first starts at SCRN (defined in LINE 210), the second at SCRN+1*40, and so on, with the 36th starting at SCRN+35*40. The FOR-NEXT loop converts the ASCII code of

continued ☛

```
AP 320 ? "▸↓PRESS A KEY TO RELOAD":POKE 7
   64,255
CY 330 IF PEEK(764)=255 THEN 330
KC 400 REM  LOAD ROUTINE 410 - 460 
QV 402 REM
GF 409 REM  OPEN CHANNEL #1 FOR INPUT 
KP 410 CLOSE #1:OPEN #1,4,0,"D:PICTURE":F
   =7
TV 419 REM  LOAD GRAPHICS MODE  and go in
   to that mode
DF 420 GET #1,G:GRAPHICS G
AD 429 REM  LOAD COLOURS  and put the val
   ues in the colour registers
GJ 430 FOR N=704 TO 712:GET #1,C:POKE N,C
   :NEXT N
XK 439 REM  FIND BUFFER SIZE: -  Amount o
   f bytes to be loaded is area between s
   creen RAM start and top of RAM
GU 440 RAMTOP=PEEK(106)*256:SC=PEEK(88)+2
   56*PEEK(89):BYTES=RAMTOP-SC+1
BV 449 REM  CALL UP TRANSFER ROUTINE 
TD 450 GOSUB 510
JW 460 POKE 764,255:END
KT 509 REM  - IOCB ROUTINE 
FO 510 IOCB=848:POKE IOCB+2,F:POKE IOCB+4
   ,PEEK(88):POKE IOCB+5,PEEK(89)
UE 520 HI=INT(BYTES/256):LO=BYTES-HI*256:
   POKE IOCB+8,LO:POKE IOCB+9,HI
FK 530 I=USR(ADR("hhh LV "),16):RETURN
```

```
GP 100 REM  PROGRAM 2: WRITING TO RAM 
QS 102 REM
BO 109 REM  - SET UP SCREEN FIRST 
GC 110 GRAPHICS 7:DL=PEEK(560)+256*PEEK(5
   61)
CM 120 POKE DL+40,2
XL 130 FOR ROW=0 TO 30 STEP 5:COLOR ROW:P
   LOT 0,ROW:DRAWTO 159,ROW:PLOT 0,ROW+40
   :DRAWTO 159,ROW+40:NEXT ROW
DM 209 REM  - FIND RAM FOR TEXT LINE 
TZ 210 SCRN=PEEK(88)+256*PEEK(89)
AW 220 SC=SCRN+35*40
DJ 249 REM  - CONVERT ASCII TO CODE 
ND 250 DIM A$(39):A$="• This is a line of
     GRAPHICS 0  ..•"
WJ 260 FOR N=1 TO LEN(A$):S=ASC(A$(N,N))
UG 270 IF S<32 OR (S>127 AND S<160) THEN
   S=S+64:GOTO 290
RK 280 IF (S>31 AND S<96) OR (S>159 AND S
   S<224) THEN S=S-32
NW 289 REM  - POKE CODE TO SCREEN 
WQ 290 POKE SC-1+N,S:NEXT N
```

each character in our message string into an internal code (either by adding 64, subtracting 32 or doing nothing, depending on its value) and POKEs the answer to screen RAM.

SCREEN RAM AND DISPLAY LISTS

The 5th and 6th bytes of a display list instruction set tell Antic what part of memory to show on the screen. In the normal course of events, these will be the memory address pointers for the start of screen RAM in low, high byte order. For example, in Graphics 0 these bytes hold 64 and 156 so ANTIC puts the contents of memory location 40000 (64+256*156) up in the top left of the screen, the contents of location 40001 in the next place to the right and so on, with the contents of memory location 40959 down in the bottom right hand corner. As this is a Graphics 0 screen, Antic knows it must go on to a new line after every 40 bytes and also that it must show 960 screen bytes altogether.

SCREEN FLIPPING

The next few listings show some effects which can be achieved by telling Antic to look somewhere else in memory for the screen bytes. PROGRAM 3 is a small "screen flipping" demo in which the computer swaps between some Graphics 1 screens when you press the console keys. LINE 110 sets up a new screen to begin at memory location 21504 (0 + 256*84). When SELECT is pressed, LINE 200 directs the computer to display this screen by putting its low and high byte pointers into the display list's "screen" locations. LINES 130 and 210 work in the same way for the second screen, called up with OPTION. Pressing START enables the main screen by sending the program to LINE 150.

```
GY 100 REM  PROGRAM 3: SCREEN FLIPPING 
QS 102 REM
UZ 109 REM  - SET UP TWO NEW SCREENS 
IM 110 GRAPHICS 1:POKE 88,0:POKE 89,84
ML 120 POSITION 0,3:? #6;"SCREEN ONE"
OA 130 GRAPHICS 1:POKE 88,0:POKE 89,88
VQ 140 POSITION 3,6:? #6;"screen two"
ML 149 REM  - INSTRUCTION SCREEN 
DE 150 GRAPHICS 1:DL=PEEK(560)+256*PEEK(5
   61)
IB 160 POSITION 0,4:? #6;" SELECT SCREEN
   ONE":? #6:? #6:? #6;" option SCREEN 2"
   :? #6
FQ 170 ? #6:? #6;" start THIS SCREEN"
DZ 180 IF PEEK(53279)<>5 AND PEEK(53279)<
   >3 AND PEEK(53279)<>6 THEN 180
XY 199 REM  - CHANGE DL+4 AND DL+5 
MN 200 IF PEEK(53279)=5 THEN POKE DL+4,0:
   POKE DL+5,84
ST 210 IF PEEK(53279)=3 THEN POKE DL+4,0:
   POKE DL+5,88
FP 230 IF PEEK(53279)=6 THEN 150
OZ 240 GOTO 180
```

SCROLLING AROUND MEMORY

PROGRAM 4 takes things a bit further by changing the display list screen memory pointers every time the arrow keys are pressed. Up or down increments or decrements the address which ANTIC uses by 40 (because there are 40 bytes per Graphics 0 line). The left and right arrows increase and decrease the RAM pointers by 1 byte. This gives us vertical and horizontal scrolling over the computer's memory, within the maximum/minimum limits set by LINE 140.

HORIZONTAL SCROLLING

If you examine the horizontal scrolling, you may notice that what is scrolled off the screen in one line becomes scrolled on the screen in the next line. This happens, of course, because the bytes are stored consecutively, with the graphics mode telling Antic when to go on to the next line to give the 2 dimensional effect. The final listing, PROGRAM 5, gets around the problem by putting the line to be scrolled into its own memory area. A customised display list is set up to call up the new line and then to direct Antic back to showing the normal screen RAM.

First we reserve an area at the top of memory and define our message string. The starting letters were repeated at the end to give a wraparound effect and stop the message "jumping" after each display sequence (LINE 140). LINE 150, which puts the string into the reserved area, uses a shortened version of the technique covered in PROGRAM 2, as we've only got capital letters this time. We will scroll the 10th line (DL+14) of a Graphics 0 screen. LINE 170 finds out where screen memory starts for the following line and puts the answer in high byte/low byte format. LINES 200-240 set up the new display list in Page 6 of memory. The first 14 and the last 17 bytes are copied directly from the normal display list as they don't

```
JZ 100 REM  PROGRAM 4: SCROLLING
QS 102 REM
CI 110 GRAPHICS 0:DL=PEEK(560)+256*PEEK(561)
DX 120 POSITION 2,10:? "4 WAY SCROLL: USE ARROW KEYS OR ESC":CLOSE #1:OPEN #1,4,0,"K:"
NH 139 REM  DISPLAY MEMORY:  Define DM and set its min and max limits; opening value is screen RAM start
TE 140 DM=PEEK(DL+4)+256*PEEK(DL+5):MAX=50000:MIN=30000
CR 149 REM  PRESS A KEY:
WH 150 GET #1,K:IF K=27 THEN 190
DK 154 REM  LEFT/RIGHT ARROWS:  Add 1 byte to or subtract 1 byte from Display Memory; keep within limits
FX 155 DM=DM+1*(K=43 AND DM<MAX)-1*(K=42 AND DM>MIN)
NX 159 REM  UP/DOWN ARROWS:  Add 40 bytes to or subtract 40 bytes from Display Memory; keep within limits
PM 160 DM=DM+40*(K=45 AND DM<MAX)-40*(K=61 AND DM>MIN)
IA 169 REM  TELL ANTIC:  Convert DM into high and low bytes and POKE the values into the display list
KQ 170 HI=INT(DM/256):LO=DM-(HI*256):POKE DL+4,LO:POKE DL+5,HI
OZ 179 REM  NOW GET ANOTHER VALUE:  Go back to LINE 150 to wait for keypress; increment DM and repeat..
NZ 180 GOTO 150
EI 189 REM  WHEN ESC IS PRESSED:  End the program
HZ 190 GRAPHICS 0:CLR :END
```

```
QE 100 REM  PROG 5: HORIZONTAL SCROLL
QS 102 REM
MA 110 CLR :GRAPHICS 0:POKE 752,1:POKE 764,255:P=0
EI 119 REM  RESERVE MEMORY: -  Move ramtop down 4 pages to page 156
SP 120 POKE 106,156
HD 129 REM  SET UP MESSAGE STRING
LH 130 DIM A$(31),B$(255):A$="HORIZONTAL SCROLLING DEMO...     ":FOR N=1 TO 8
TP 140 B$(31*(N-1)+1,31*N)=A$:NEXT N:B$(249)="HORIZON"
TG 149 REM  PUT MESSAGE IN MEMORY: -  Convert ASCII to internal code and POKE string into reserved RAM area
KI 150 SCR=256*156:FOR N=1 TO LEN(B$):POKE SCR+N,ASC(B$(N,N))-32:NEXT N
GH 159 REM  FIND SCREEN MEMORY
GC 160 SC=PEEK(88)+256*PEEK(89)
NC 170 SC2=SC+10*40:H=INT(SC2/256):L=SC2-H*256
BC 199 REM  SET UP NEW DISPLAY LIST
FL 200 DL=PEEK(560)+256*PEEK(561):FOR N=0 TO 13:POKE 1536+N,PEEK(DL+N):NEXT N
RM 210 POKE 1536+14,66:POKE 1536+15,0:POKE 1536+16,156
EQ 220 POKE 1536+17,66:POKE 1536+18,L:POKE 1536+19,H
GB 230 FOR N=0 TO 16:POKE 1536+20+N,PEEK(DL+16+N):NEXT N
ZL 240 POKE 560,0:POKE 561,6
WH 249 REM  POKE DISPLAY LIST: -  To show the message in the reserved RAM area at page 156
KJ 250 P=P+1:IF P>215 THEN P=0
AM 260 POKE 1536+15,P:FOR D=1 TO 50:NEXT D
OI 270 GOTO 250
```

change (LINES 200 and 230). LINE 210 puts a 3 byte Load Memory Scan instruction into the display list to tell Antic to show the reserved area, beginning at page 156, on the next line. This is followed by another LMS (LINE 220) to tell the computer to go back to showing the regular screen RAM: The pointers for the 11th line of the Graphics 0 screen were worked out in LINE 170. LINE 240 enables the new list. The scrolling routine at LINES 250-260 works by incrementing the low byte pointer for the line by 1 until it gets to 215, bringing it back to 0 and repeating the sequence, where 215 is a full page less 40 bytes per Graphics 0 line.

GOING FURTHER ..

Some of the listings here could be adapted for use in your own programs. For instance, the screen swapping technique from PROGRAM 3 might be used in a game - the instructions could be stored on a separate screen which is called up when say, the HELP key is pressed. Or perhaps PROGRAM 5 could be adapted as part of a title screen, with the scrolling message saying "press a key to continue .." In this case, if you change the screen to Graphics 1 or 2, you should remember that these modes only use 20 bytes per line, so LINE 170 will have to change too. In any event, all the listings have plenty of REMs to help you along the way as you experiment.

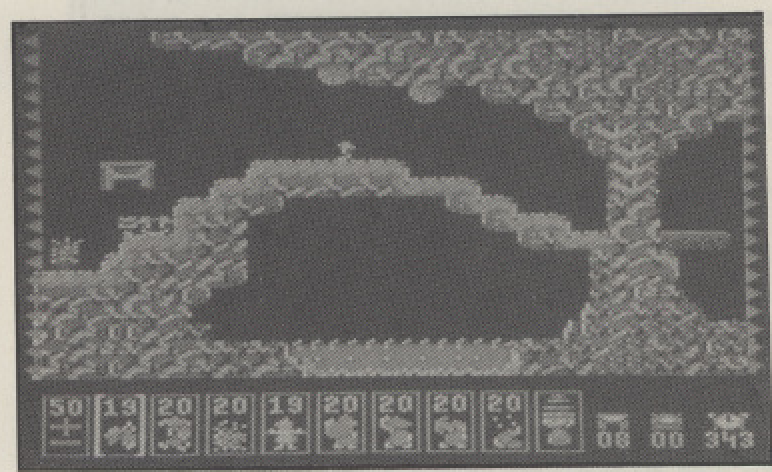
TABLE 2
INTERNAL CHARACTER CODES

INTERNAL CODE	ASCII NO.	HOW TO CHANGE ASCII TO CODE
0 - 63	32 - 95	subtract 32
64 - 95	0 - 31	add 64
96 - 127	96 - 127	no change
128 - 191	160 - 223	subtract 32
192 - 223	128 - 159	add 64
224 - 255	224 - 255	no change

At last, LEMMINGS comes to the Atari Classic with ...

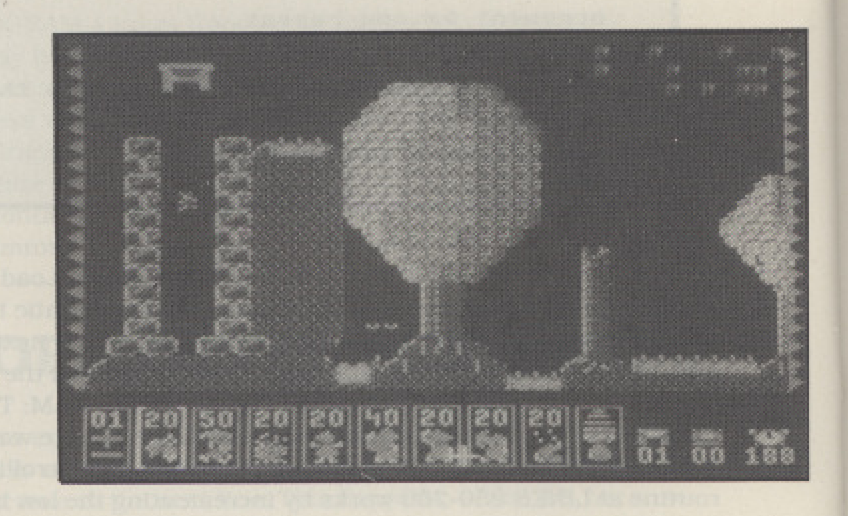
Here at last! Yes, the eagerly awaited conversion of Psygnosis' classic arcade game Lemmings has arrived some two years after German publishers Ke-Soft first commissioned work on the project. Some thought THE BRUNDLES would never see the light of day but Ke-Soft are not inclined to make rash promises. Indeed, they said it would be good and they weren't kidding!

Lemmings (or Brundles) are small arctic rodents who are renowned for having scant regard for their own safety - if there's a fire they are burned, if there's a mangle they go for a spin, if there's a hole they fall straight in! The only way to prevent the Brundles marching headlong into potentially fatal situations is to tell them exactly what to do instead. This is where you come in. By prompting individual Brundles to carry out special activities you can help them avoid the deadly consequences of their ignorance - or at least save enough bodies to qualify for the next round of mayhem!

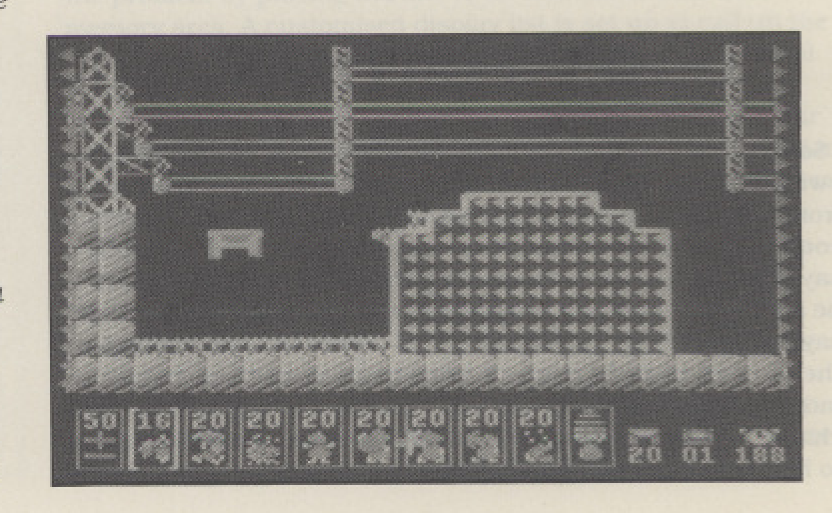


The input device in this game can be a joystick, mouse, CX-85 numeric keypad or Suncom Animation Station. A mouse is ideal, though I've found the game is still eminently playable using the standard joystick option. If you don't have a mouse you might consider buying one to play Brundles - needless to say, Ke-Soft can offer you a good deal on one of these!

The Brundles fall into view through a small trapdoor. The speed at which they do this varies from level to level though it's possible to increase the rate if desired. There are ten different landscapes - from dark caves to power stations, secret woods and the depths of a volcano - visited over a total of one hundred levels (only sixty levels are supplied with early release copies of the game, the remainder will be available free of charge on application to Ke-Soft).



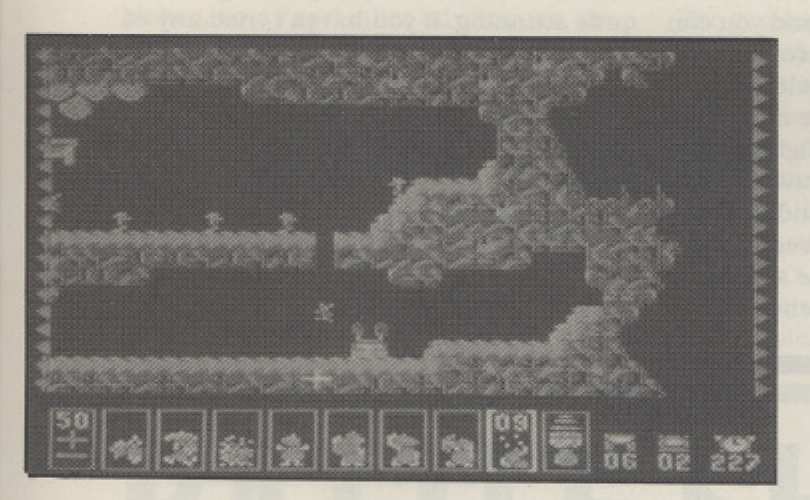
To complete a level you are required to guide at least the specified number of Brundles to the exit hut within a restricted time period. Depending on the allocation of special functions to the level concerned, you can issue various commands to the Brundles to ensure they are safely homeward bound. Instructions may be issued by clicking the screen cursor on a corresponding icon in the lower part of the screen, and then selecting a particular Brundle to carry out the chosen activity. With your help a Brundle can assume the role of a Climber (able to climb high walls), Floater (able to survive a fall from a great height), Blocker (able to stop other Brundles passing a given point), Bomber (able to self-destruct and demolish the immediately surrounding walls), Builder (able to con-



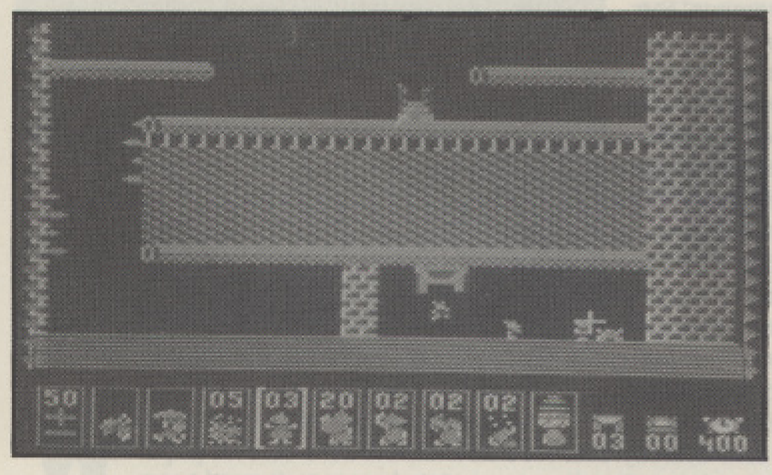
THE BRUNDLES

struct stairway-type bridges) or Digger. Diggers come in three varieties having an ability to dig straight ahead, straight down or diagonally in direction. To successfully tackle each level you'll need to discover the correct combination of activities to save a sufficient number of Brundles - but one slip and all could be lost!

The first few screens are reasonably simple to master and serve mainly to introduce you to the different features of the game. The activities are only allocated in the quantities required, thereby providing you with a subtle hint of appropriate tactics. Later on, however, the difficulty rating is stepped up. The number of Brundles to rescue is increased whilst the time allowed to do it is reduced, the route from entrance to exit point may not be at all obvious and the activities supplied may not seem appropriate. But that's the fun of Lemmings! It may take hours and hours of frustrated experiments to find the solution to a level but the feeling of satisfaction when you finally crack the puzzle is unmatched by any other computer game. Fortunately each level has an associated code word displayed at the start so, as long as you remember to write it down, you can always continue playing where you left off.



The Brundles is, without exaggeration, a visual masterpiece that has to be seen to be appreciated. The scenarios have been meticulously drawn with a highly commendable use of colour and animation. The ten landscapes are accompanied by their own corresponding theme tunes (for example, Grieg's 'Hall of the Mountain King') and the overall effect suggests that the game's two years of development have certainly not been wasted. From the title page to the interlude screens and the scrolling levels themselves, it's clear the author has spared no effort to obtain perfection.



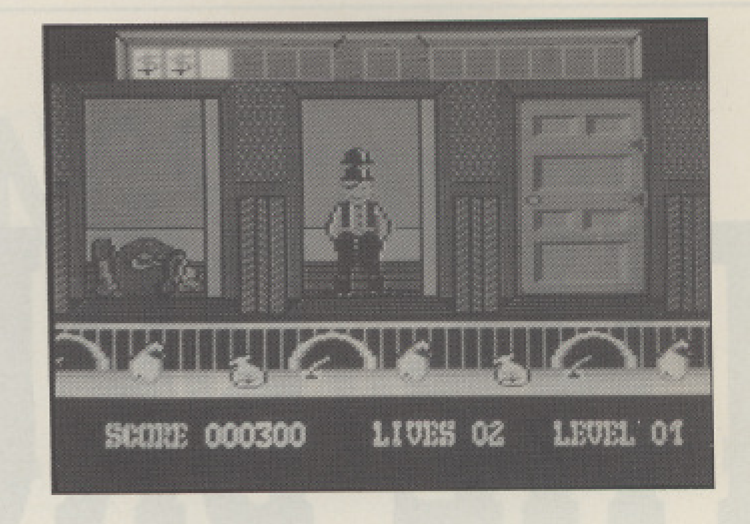
This is definitely the most exciting new release for some time and due appreciation should be shown to Ke-Soft for supporting the speculative development of an amazing game. The Brundles is quite simply an essential component of any respectable games collection - it's right up there with Lode Runner, Star Wars and Rescue on Fractalus. What more can be said than ... buy it today!

Now, as they say, other news: Ke-Soft have recently announced the first English language edition of ZONG, their regular paper-based Atari magazine. Ke-Soft's proprietor Kemal Ezcan has promised more English Zongs in the future - providing enough interest is displayed by British readers. A full review will appear next issue but, in the meantime, don't hesitate to check it out.

Title: ***THE BRUNDLES***
Publisher: ***Ke-Soft***
Supplier: ***Micro Discount***
Price: ***£15.00***
Format: ***Disk***

Reviewed by Paul Rixon

BANG! BANK!



The title page of this unusual game is accompanied by one of the most original examples of music to have featured in an Atari game since ... maybe The Tail of Beta Lyrae? Anyway, if you're into computer music then you'll want to acquire BANG! BANK! straight away, purely as a great example of what can be achieved with your Atari.

Incidentally, the game screens and instruction sheet suggest that this game is actually named Bank! Bang!, though we'll stick with the outer packaging which has it the other way around! The story is that a town's bank manager has received a tip off suggesting that a group of desperate bandits are planning to rob his premises. He's decided to place an armed guard on the door, just in case the rumour is true. Guess who's been volunteered to help?

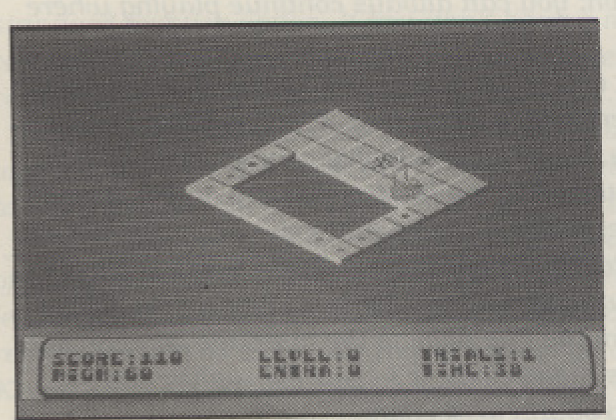
Your screen view comprises three large doorways, underneath a collection of small boxes. The doors open and close at random to reveal either a saloon girl, a customer or a bandit with a gun. You've got to make a quick decision as to whether you should fire at these characters or leave them well alone. If you don't tackle a baddie you'll be shot yourself and lose a life - but if you harm an innocent customer then you'll lose one anyway! For shooting the bad guys you gain points and dollars. Your aim is to fill three boxes corresponding to the current screen with dollar tokens before you move onto the next set of doors. There are four sets to the first level and you can access different sections by scrolling across when all the doors are closed.

In later stages you meet some new characters, such as Jake the Gunfighter (who mustn't be shot before he's drawn his gun) and Pete the Mexican Bandit. Also, the number of bad guys is increased while the doors open and close at a more frequent rate. The game is intended to stretch your powers of hand-to-eye coordination to the limit. It succeeds.

Bang! Bank! is a pleasantly original game and is blessed with the great graphics and sound effects that seem to be a trademark of Mirage. The quality of this and other recently imported games is quite stunning. If you haven't tried any of them yet, you have quite a surprise in store!

Title:	***BANG! BANK!***
Publisher:	***Mirage/A.N.G.***
Supplier:	***Micro Discount/A.N.G.***
Format:	***Disk***
Price:	***£5.95***
Reviewer:	***Paul Rixon***

BOMBI



The authors of BOMBI - the latest Power-Per-Post import to arrive from DGS - were also responsible for creating the amazing QUICK programming language reviewed in Issue 63. Naturally, they used Quick to write this game!

You are requested to guide Bombi (maybe Mr. Blobby in a blue outfit?) through sixteen dangerous platforms which are littered with explosives. Bombi has to prime the bombs and avoid getting caught in the resultant blast. The platforms are drawn using the 3-D graphics style of Marble Madness, such that the joystick diagonals must be used to control movement. Surrounding the platforms is a 'deadly abyss', so you must be very careful not to steer Bombi over the edge. When Bombi touches a Bomb, its detonator is immediately triggered and there is only half a second's chance to vacate the square!

There are three different types of bomb. Small bombs will only destroy their own square so you can quickly step aside to avoid injury. Medium sized bombs also wipe out the four neighbouring squares, which may contain their own bombs and thereby set off a chain reaction. The largest bombs affect the eight neighbouring squares, so you'll need to have an escape route planned before tackling any of these. To finish a level you must detonate at least ninety percent of the bombs, without harming Bombi, and also catch a bonus cross which jumps around the platform at random.

Well, I've made quite an effort to master this game but I have to conclude that, sadly, the frustration factor (or ease of dying) is simply far too high. The author has put lots of effort into the visual components of the game but then forgotten to inject that essential ingredient - playability. The resultant series of screens may be very pretty to look at but they don't substitute for an addictive game. Better luck next time chaps!

If you own a light gun you'll no doubt be pleased to learn that DGS have just released a light gun game called Alien Blast. For Rambit tape users they have also transferred Rubber Ball, Glaggs It and Mine Sweeper into turbo format. Finally, it has been announced that the News-Disk publication (described in Issue 64) has been renamed The Atari 8-Bit News-Paper to reflect the fact that's it's now distributed on real paper! Reviews of these products will be coming soon to NAU.

Title:	***BOMBI***
Publisher:	***Power Per Post***
Supplier:	***DGS***
Format:	***Disk***
Price:	***£4.95***
Reviewer:	***Paul Rixon***

SPECIAL FORCES



Good news for Operation Wolf fanatics! Hot on the heels of A.N.G.'s excellent Wolf clone Operation Blood comes SPECIAL FORCES, or Operation Blood II, from Poland's talented Mirage Software programmers.

You are alone in the centre of a battlefield, equipped with a rapid-fire machine gun and a small quantity of grenades. Your view is through the sights of your gun, and your orders are to wipe out anything that moves - except, of course, Red Cross nurses transporting the injured to safety. As you blast away at enemy commandos, tanks, jeeps, fighter planes, boats and other adversaries, the tally remaining for each category is updated on a status line. You need to annihilate the specified quotas before you can progress to the following level.

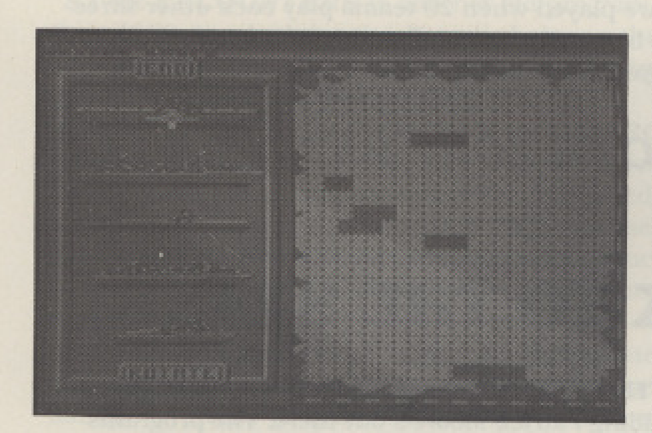
Your supplies of bullets and grenades are limited, so it's wise to keep an eye open for bonus packages, which drop from the sky by parachute. An accurate shot will add the contents of a package to your inventory, but meanwhile you must avoid taking too many hits from the ever persistent opposition. Their wish is to zap your energy level to the point of expiry. Fortunately, you have some lives in reserve! Tactics? I'm tempted to suggest that you should close your eyes and keeping hitting the trigger, but hardened Wolf addicts will no doubt have a strategy based on the fire power of the various enemy units, conserving energy and making every shot count (but how do you survive level two?!).

The graphics are fairly well detailed, though rather lacking in colour (why do games of this type always have such drab colour schemes?). Animation techniques have been expertly used to deliver a good deal of simultaneous action without compromising the speed of play. The title page is particularly appealing and music (which isn't heard during the game itself) is top notch stuff. If you have a mouse, you'll be pleased to know the authors have included an option for mouse as well as joystick driven operation.

The instructions contain a reminder that real war is no fun at all and Special Forces is not intended to suggest it can achieve anything other than misery and destruction. However, since the majority of computer games involve some kind of violence, I guess the moral arguments do not need to be specifically directed at this one.

Title:	***SPECIAL FORCES***
Publisher:	***Mirage/A.N.G.***
Supplier:	***Micro Discount***
Format:	***Disk***
Price:	***£6.95***
Reviewer:	***Paul Rixon***

BATTLE SHIPS



Who wants a game of battleships? For those who do, A.N.G. Software have discovered a new game from Poland's Mirage Software called (wait for it ...) BATTLE SHIPS.

The game kicks off with a neat loading sequence featuring an excellent battle ship drawing and a snazzy 'mirrored' prompt for you to flip the disk onto side B. After a somewhat alarming memory 'uncrunching' routine, the title page is revealed. This again is a marvellously artistic affair with re-defined characters forming the menu text and superb battle ship drawings used as a backdrop to the game's title. From this screen you select whether to play against a human or computer simulated opponent, in the former case using either one or two joysticks. Pressing Start launches into the game itself.

As you'd expect the first task is to place some battle ships (five in all) onto the battle grid. There are five classes of ship which occupy between two and six grid squares.

Using a joystick controlled screen pointer you must select each ship from a panel on the left of the screen, then set the respective position on a battle grid of four hundred squares to the right. When you're satisfied with the layout of your fleet, you can click on an 'end' icon to continue play.

If you've opted to challenge the computer the next cycle of events involves little interaction from you. First you observe the computer marking its shots against the grid, then you can sit back and watch the battle commence to the panic-stricken tones of an apt jingle. When this rather lengthy but graphically pleasing spectacle is over, it's your turn to play hunt the ship. Initially you have twenty shots at the grid but the number is reduced if any of your ships are sunk by the opposition. A status panel indicates the strength of your fleet and, when the worst comes to the worst, replaces stricken vessels with 'SOS' symbols. When a player wipes out the other's entire fleet, a teleprinter pops up to announce the victor.

Until now the best battleships game I'd encountered was a type in listing from the long defunct Big K magazine. Battle Ships surely takes its place as the ultimate version of this incredibly addictive game. Mirage have gone to town with brilliant graphical effects and good music. A splendid effort!

Title:	***BATTLE SHIPS***
Publisher:	***Mirage***
Supplier:	***A.N.G. Software***
Format:	***Disk***
Price:	***£4.00***
Reviewer:	***Paul Rixon***

SOMETHING SERIOUS ...

Red Alert! We have crash landed on an alien planet deep inside the Classic PD Zone. It is known only as 'P6'. Due to engine failure we cannot take-off and must therefore negotiate with the local inhabitants, the P6ers. They have offered us a new hyper-drive engine if we undertake an examination of three Pudosian offerings they have received via mail order from the planet Atari8. We have agreed the terms and await the offerings...

LEAGUE ORGANISER

LEAGUE ORGANISER is a unique piece of software which will allow you to organise and schedule leagues of up to 31 teams. Whether you play in the local football league or run a weekend chess league, this program will be of some use to you in eliminating all the gruelling hours of organising league fixtures.

The disk is double-sided with the documentation on Side B. I'm one of those people who never read docs before using a program, so I booted Side A first. A good title screen appeared on the screen (always a good start!) and was soon followed by the main menu, which was split into three sections: the title bar, the main window (featuring the options available) and the sub-menu (general information and error messages).

Hmm! After unsuccessfully attempting to select an option, I decided it might be best to read the docs before progressing any further. I therefore flipped the disk, loaded the docs menu and printed them. Sixteen pages later and they were printed! The program actually allows you to set the size of your page before printing. I suggest you use a page length of about 60 lines for normal A4 sheets.

The documentation is a joy to read! It takes no more than fifteen minutes and tells you everything you need to know, without ever getting too technical. At the end there is a small example which takes you through each stage of setting up a league.

Getting back to the program itself, we were at the main menu... There are eight options available at this menu: Edit Team Names, Edit Season, View Fixtures, Save File, Load File, Disk Directory, Delete File and Format Disk. Each option is selected by using the cursor and arrow keys and then pressing Spacebar.

The DOS-type options are self-explanatory. It is the first three options which make League Organiser tick.

Edit Team Names allows you to enter and edit the names of up to 31 teams (or players). This should be more than enough for the vast majority of league tables. Entry is quick and easy.

Next up is Edit Season. This option creates the season to be played. It begins by requesting the season starting date. You enter this in Day/Month/Year format. The screen then speedily displays the calendar of the month you have chosen. A cursor highlights the first day of the season. A very professional touch!

Next, you must mark the first day of the season and follow it with the final day. After doing this a window will appear within which you can enter weekly time slots over the marked period, i.e. when the games are to be played and the number of playing areas available.

A quick press of the Return key and you are back to the Main Menu. The next step is to create the fixture list. Select View Fixtures from the menu and you will be requested to choose either the whole fixture list or an individual team. After making your selection you can enter who is playing at home and who is playing away. If at this point you'd like to print the fixture list you just hit Spacebar. I suggest that you position your print head at the top of your paper as the list uses an entire page before moving onto the next.

League data can be saved to disk at the main menu by selecting Save File. On Side B you'll find the example league under the filename EXAMPLE.LGE. Use Load File to load it into memory.

I found League Organiser to be a very professional piece of software. It has the feel of a program which was written by somebody who takes great pride in his work, and indeed the Atari 8-bit. The author, Adrian Hyland, even states in the documentation that his main inspiration behind League Organiser was a letter which was published in New Atari User issue 55 (Hi Ed!).

The print option is very useful and allows both whole and individual fixture lists to be printed (very handy for making sure that everyone arrives on time!).

I see League Organiser as the first step to an expanded program featuring all the options above plus a "Manager" program to control the league in progress, i.e. results, current standings, etc. How about it Adrian?

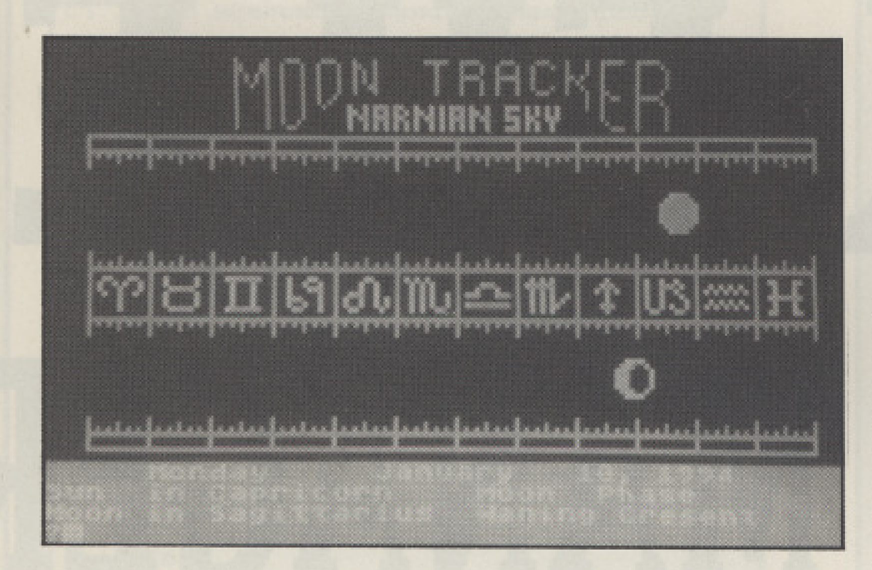
If you are involved in a league of any kind you really should check out League Organiser - it'll save you many hours of organisation and do all the tricky calculations for you (e.g. how many games are played when 29 teams play each other three times?) Before blowing your mind, just boot up your drive and let League Organiser do all the work for you!

CLASSIC PD ZONE RATING: 81%

LOOK TO THE STARS

LOOK TO THE STARS features six astronomy programs for all you budding Patrick Moore's out there. The programs are Moontracker, Star Gazing, Planetarium, Horizon, Star Encounters and Marooned in Space.

The first program on the disk is a very interesting and quite unique piece of software. ***MOONTRACKER*** is divided into two parts. Part 1 (Moontracker) will display the positions of the sun and moon for any date. It will also give you the moon phase. Part 2 (Moonplanter) is described as a "computerized farmer's almanac". In other words, it's a farmer's calendar which gives you the best days to perform certain farming tasks, according to the position and phase of the moon. The farming tasks included are planting, watering, cultivation, pruning, harvesting, canning and cutting timber. The prime, good and fair days are given for a selected month and year.



Included with the Moontracker documentation is an interesting section on calendars and planting by the moon. I can't ever see myself actually putting this new-found knowledge to use but it was an interesting read nevertheless.

Next up on the disk is ***STAR GAZING***. This program is subtitled "A Winter Astronomy Quiz" and that's exactly what it is, albeit a very basic one (there are only five questions to answer). However, there is a Review option which goes through all of the constellations and shows them in the graphics window.

PLANETARIUM is a small graphics demo which cycles through various constellations. It is very similar to the Review option in Star Gazing.

The next two programs are aimed at experienced astronomers and photographers. ***HORIZON*** is a coordinates calculator which gives you the height and direction of a celestial object. As a brief point of note, Horizon was programmed in December 1978 - that's FIFTEEN years ago! I love examining old programs like these!

STAR ENCOUNTERS is another old program, this time from 1979. It calculates the distance between the Earth and a selected star. The author advises the use of a star atlas when using Horizon or Star Encounters.

The final program on Look to the Stars is ***MAROONED IN SPACE***. Programmed in 1981, from a version for the TRS-80 computer (Scott Adams' old favourite), Marooned in Space is an interesting little program which disguises itself as a quiz. You are trapped on a planet and your only chance of escape is to use the clues given to identify the name of the planet. Simple, but good fun!

Overall, Look to the Stars brings you the unique Moontracker, two small quiz games, a basic graphics demo and two old astronomy utility programs. OK, so it's not a spectacular disk but it does seem to offer a good mixture of programs. Moontracker and Marooned in Space are both very good! The other four programs will only be of interest to you if you enjoy the charm of old programs or if one of your main hobbies is astronomy. A breath of fresh air from the usual onslaught of arcade games and disk utilities.

CLASSIC PD ZONE RATING: 73%

CHILDRENS' SONGS

I thought I'd briefly mention a disk which my four year old cousin has recommended to everyone. ***CHILDRENS' SONGS*** features 37 songs for the young at heart. The songs include many timeless classics such as Pop Goes The Weasel, Teddy Bear's Picnic, Waltzing Matilda, Popeye, Old McDonald, etc.

Childrens' Songs is a Composer's Jukebox II disk. The songs are played via an on-screen keyboard. Each note is represented by one of four colours. The effect works well and adds to the feel of the disk.

All 37 songs can be played automatically one after the other. The program then goes back to the first song. You can therefore let it play on for as long as you wish. You can also select individual songs to play back.

My young cousin Lewis loved this disk - I could tell by the silence as he stared at the TV screen (although after a few songs he did ask "where's the dinosaurs"). However, he's started to ask his mum and dad for an Atari. I guess style runs in the family!

Childrens' Songs is one for kids under five.

CLASSIC PD ZONE RATING: 72%

SEE-YA!

The P6ers have agreed to assist us with the replacement of our hyper-drive engine so we will soon be taking off. Prepare yourself for the force of the boosters by shouting... Gameboyiscrap! That's the local lingo for Long Live the Atari 8-bit! Fifteen years and still going strong! Until next time... Use your 8-bit long and prosper!

This issue's reviews have been:

DISK DS#95 - LEAGUE ORGANISER
DISK #93 - LOOK TO THE STARS
DISK #133 - CHILDRENS' SONGS

P.S. The answer to the League Organiser question is 1218.

with Stuart Murray as your guide

DISK FILE MANAGER

David Sargeant brings you a 'front-end' program for using DOS utilities and controlling programs

For anyone who has used an IBM-compatible Personal Computer, I am sure you have found the usual DOS prompt very intimidating. It is usually just an underline character or a greater-than sign with no indication of how to carry on. You have to refer to the manual to find out. By using a program loosely termed a 'Front End', a PC can be made much more user-friendly.

As part of the boot process the 'Front End' program is loaded and run automatically. A menu is displayed from which you have instant access to DOS utilities and program execution. No more typing long-winded commands at the system prompt. Now all you have to do is choose an item from the menu. Just a few key strokes are required to perform your task.

As far as I am aware there is no 'Front End' available for an Atari Classic computer. Since such a program is very useful in the PC world, a similar utility ought to be available to make the Atari more accessible. BASIC does have the XIO command that can be used to perform DOS tasks, so it would seem possible to write a menu program that provides these useful functions.

Disk File Manager is a straight-forward Atari BASIC program ,although I have used a little machine code as BASIC is slow in some aspects. It provides you with access to DOS utilities and programs can be loaded or run with only a few key presses. Follow these steps to create the necessary files and a boot disk:

1. *Type the listing and save it to disk in LISTed format as DFM.LST. (this is your back-up copy, keep it safe).*
2. *Save it again in SAVEd format as DFM.BAS.*
3. *Format your boot disk and put the DOS files on it.*
4. *Copy the DFM.BAS file onto your boot disk.*
5. *To get DFM.BAS to load and run automatically on booting your system, it is necessary to have an autorun file. Use the SETUP.COM utility supplied with DOS 2.5 to create an AUTORUN.SYS file on your boot disk to load and run the BASIC program.*

Use this new disk to boot your system in the normal way.

USER GUIDE

After a short initialisation routine the main screen is displayed together with the main menu. From this and subsequent menus you indicate your choice by pressing the highlighted character.

BASIC - This terminates the program returning you to the normal default screen with the READY message. You can also end the program by pressing the ESCAPE key.

DIRECTORY - You are prompted to type a file specification which must comply with the normal DOS file naming rules. For example, *.* is used to indicate all files and *.LST means all files with that particular extension. If you just press the RETURN key without typing anything, the program assumes the default specification of *.*.

The files which match the specification are then read into the directory buffer and the file and sector counts are displayed. The first block of 32 files is transferred from the buffer to the screen. If there are more than this number of files in the directory buffer, the next block can be displayed by pressing the Space bar.

Note that LOAD/RUN and UTILITIES are not available until the working directory has been read into the buffer.

FORMAT - A disk can be formatted in single or enhanced density. Press the respective key of your choice or any other key to abort.

LOAD/RUN - Choose this option to execute a file. The LOAD/RUN menu is displayed and the first file is highlighted. You can press the Space bar to display the next file block if you want. Indicate the file on which you want to work by pressing the relative cursor key to highlight it, then select from the menu.

ENTER - You are returned to the normal default screen. The commands NEW and ENTER "D;filename.ext" are displayed and can be executed in direct mode. The cursor is placed over each command in turn. Press the RETURN key to execute this or the BREAK key to abort.

```
CS 1 REM ################################
HY 2 REM #       DISK FILE MANAGER      #
LT 3 REM #              by              #
YF 4 REM #         David Sargeant       #
SG 5 REM # ---------------------------- #
RB 6 REM #  NEW ATARI USER - DEC 1993   #
CY 7 REM ################################
NN 8 REM
GL 14 GOTO 20000
VA 1000 REM MAIN MENU
IH 1010 TWINDEX=0:GOSUB 13200:FILE=1:HIGH
   LIGHT=0:RETURN
DK 1500 REM DIRECTORY
PQ 1510 GOSUB 13400:IF I=0 THEN DIRSPEC$=
   "*.*"
YM 1520 DIRECTORY$(1)=" ":DIRECTORY$(1088
   )=" ":DIRECTORY$(2)=DIRECTORY$
QI 1530 FILESPEC$="D:":FILESPEC$(3)=DIRSP
   EC$:XIO 3,#1,6,0,FILESPEC$:NUMFILES=0:
   USED=0
DJ 1540 INPUT #1,FILE$:IF FILE$(10,16)="S
   ECTORS" THEN 1580
HO 1550 NUMFILES=NUMFILES+1:P=OFFSET(NUMF
   ILES)
OD 1560 DIRECTORY$(P,P+16)=FILE$
XD 1570 USED=USED+VAL(FILE$(15,17)):GOTO
   1540
ZB 1580 XIO 12,#1,0,0,"D:":UNUSED=VAL(FIL
   E$(1,3))
PT 1590 POSITION 8,18:? #6;"  ":POSITION
   8,18:? #6;NUMFILES
PC 1600 POSITION 24,18:? #6;"    ":POSITI
   ON 24,18:? #6;USED
JR 1610 POSITION 34,18:? #6;"    ":POSITI
   ON 34,18:? #6;UNUSED;:IF UNUSED=999 TH
   EN ? #6;"+"
KA 1620 DIRIN=1:FILEBASE=33:GOSUB 5500:RE
   TURN
KJ 2000 REM FORMAT
WQ 2010 POSITION 3,19:? #6;"Format densit
   y - Single  Enhanced"
NJ 2020 KEY=PEEK(764):IF KEY=255 THEN 202
   0
BT 2030 IF KEY=42 THEN XIO 254,#1,0,0,"D:
   "
BV 2040 IF KEY=62 THEN XIO 253,#1,0,0,"D:
   "
BT 2050 POKE 764,255:RETURN
VQ 2500 REM LOAD/RUN
LH 2510 IF  NOT NUMFILES THEN RETURN
CJ 2520 GOSUB 10200:REM Menu
YX 2530 GOSUB 5000:REM Get option
YO 2540 IF KEY=28 THEN GOSUB 6060:RETURN
WM 2550 GOSUB 10000:REM Get file info
JH 2560 IF KEY=42 THEN POP :GOTO 10400:RE
   M Enter
AS 2570 IF KEY=0 THEN POP :GOTO 10600:REM
    Load
FE 2580 IF KEY=40 THEN POP :GOTO 10800:RE
   M Run
SG 2590 GOTO 2530
VS 3000 REM SYSTEM
FM 3010 POSITION 3,19:? #6;"Insert system
    disk - Esc to abort"
OU 3020 KEY=PEEK(764):IF KEY=255 THEN 302
   0
JC 3030 IF KEY=28 THEN POKE 764,255:RETUR
   N
WY 3040 XIO 3,#1,4,0,"D:DUP.SYS":XIO 12,#
   1,0,0,"D:"
CI 3050 POP :GOSUB 4500:POKE 764,255:DOS
AX 3500 REM UTILITIES
LI 3510 IF  NOT NUMFILES THEN RETURN
BV 3520 GOSUB 11000:REM Menu
YY 3530 GOSUB 5000:REM Get option
YP 3540 IF KEY=28 THEN GOSUB 6060:RETURN
WN 3550 GOSUB 10000:REM Get file info
BX 3560 IF KEY=18 THEN GOSUB 11200:REM Co
   py
QJ 3570 IF KEY=58 THEN GOSUB 11400:REM De
```

continued



LOAD - Read a BASIC program into memory.

RUN - Read a BASIC program into memory and run it.

SYSTEM - You are prompted to insert your system disk. Press the ESCAPE key to abort or any other key to continue. If the disk drive can access the DUP.SYS file, it is loaded and run, otherwise, the process is aborted.

UTILITIES - Choose this option to access the disk utilities. The menu procedure is the same as that for LOAD/RUN.

COPY - The highlighted file is read into the input/output buffer and you are prompted to type a new name. Type this and press the RETURN key. The file in the buffer is written to the disk using the new name.

If you just press the RETURN key at the prompt without typing a new file name, the program assumes that you want to copy the file to another disk, in which case you are prompted to change disks. When you have done so press the RETURN key and the file is written using the same name as the original.

Whether you copy to the same disk or to another one, the disk directory is read again to show that that it has been updated.

The size of the input/output buffer is set by the variable BSIZE at 12800 bytes (103 sectors). Any file greater than this limitation should not be copied using this program, although you are free to alter the size of this buffer to suit your needs.

DELETE - See note.

LOCK - See note.

RENAME - You are prompted to type a new name for the highlighted file. Type this and press the RETURN key. If you just press the RETURN key at the prompt without typing a new file name, the renaming routine is aborted. After the file has been renamed the disk directory is read again to show the alteration.

UNLOCK - See note.

VIEW - a BASIC program saved with the LIST command. You are prompted to type a line number in the range 0-32767. If the number is outside this range (i.e. not an acceptable line number), you are returned to the menu. If you just press the RETURN key at the prompt without typing a line number, the program is listed from the beginning. Otherwise, the program listing is started from the line number that you have indicated.

NOTE: when a file has been locked,unlocked or deleted the directory buffer and the screen are updated to show these various changes.

WRITE DOS - You are prompted to press Y to write the DOS.SYS file to the disk or any other key to abort. Note that the DUP.SYS file is NOT written as well. Use COPY from the utilities menu to copy an existing DUP.SYS file to your new disk.

DISK FILE MANAGER

```
   lete
KS 3580 IF KEY=0 THEN GOSUB 11600:REM Loc
   k
VZ 3590 IF KEY=40 THEN GOSUB 11800:REM Re
   name
QC 3600 IF KEY=11 THEN GOSUB 12000:REM Un
   lock
AC 3610 IF KEY=16 THEN GOSUB 12200:REM Vi
   ew
QG 3620 IF UPDATE=1 THEN GOSUB 1520:UPDAT
   E=0
SZ 3630 IF UPDATE=2 THEN GOSUB 13000:UPDA
   TE=0
SF 3640 GOTO 3530
BU 4000 REM WRITE DOS
ZK 4010 POSITION 3,19:? #6;"          Press Y
    to write DOS"
UK 4020 IF PEEK(764)=255 THEN 4020
DT 4030 IF PEEK(764)=43 THEN XIO 3,#1,8,0
   ,"D:DOS.SYS":XIO 12,#1,0,0,"D:"
BS 4040 POKE 764,255:RETURN
VI 4500 REM RESET SCREEN DEFAULTS
LE 4510 POKE 559,0:POKE 106,RAMTOP:GRAPHI
   CS 0:POKE 730,KEYREP:TRAP 40000:RETURN
AA 5000 REM GET OPTION
OO 5010 POSITION 3,19:? #6;"Option
                          ":CHARFLAG=1:POK
   E 764,255
BQ 5020 POSITION COL,ROW:? #6;CHR$(CHARFL
   AG*30+32)
OG 5030 FOR FLASH=1 TO 30:IF PEEK(764)<>2
   55 THEN POP :GOTO 5050
NN 5040 NEXT FLASH:CHARFLAG=(CHARFLAG=0):
   GOTO 5020
PO 5050 IF  NOT CHARFLAG THEN POSITION CO
   L,ROW:? #6;CHR$(62)
EJ 5060 KEY=PEEK(764):IF KEY=33 AND DIRIN
    THEN GOSUB 5500:POKE 764,255:GOTO 502
   0
AC 5070 IF KEY=6 OR KEY=7 THEN GOSUB 6000
   :POKE 764,255:GOTO 5020
CF 5080 POKE 764,255:RETURN
OK 5500 REM DISPLAY DIRECTORY
SH 5510 FILEBASE=FILEBASE+32:IF FILEBASE>
   64 THEN FILEBASE=1
HI 5520 IF FILEBASE>NUMFILES THEN FILEBAS
   E=1
RY 5530 P=OFFSET(FILEBASE):POSITION 0,1
FO 5540 FOR I=1 TO 16:? #6;"  ";DIRECTORY
   $(P,P+16);"  ";DIRECTORY$(P+17,P+33):P
   =P+34:NEXT I
EE 5550 FILE=1:IF HIGHLIGHT THEN GOSUB 60
   60
BF 5560 RETURN
JF 6000 REM HIGHLIGHT FILE
QS 6010 IF  NOT HIGHLIGHT THEN RETURN
JB 6020 DIR=0:DIR=DIR+(KEY=7 AND FILE<32
   AND FILEBASE+FILE<=NUMFILES)-(KEY=6 AN
   D FILE>1)
ZM 6030 IF DIR=0 THEN RETURN
BQ 6040 ADDR=HLADDR(FILE):X=USR(ADR(MC1$)
   ,ADDR)
ZP 6050 FILE=FILE+DIR
KA 6060 ADDR=HLADDR(FILE):X=USR(ADR(MC1$)
   ,ADDR):RETURN
AJ 10000 REM GET FILE FROM DIRECTORY$
AD 10010 P=OFFSET(FILEBASE+FILE-1):FILESP
   EC$="D:"
FR 10020 FILE$=DIRECTORY$(P,P+16)
SO 10030 STAT$=FILE$(1,1):P=3
VW 10040 FOR I=3 TO 10:TEMP$=FILE$(I,I)
CM 10050 IF TEMP$<>" " THEN FILESPEC$(P,P
   )=TEMP$:P=P+1
ZY 10060 NEXT I:IF FILE$(11,11)=" " THEN
   RETURN
RA 10070 FILESPEC$(P,P)=".":P=P+1
ZK 10080 FOR I=11 TO 13:TEMP$=FILE$(I,I)
DC 10090 IF TEMP$<>" " THEN FILESPEC$(P,P
   )=TEMP$:P=P+1
BM 10100 NEXT I:RETURN
QB 10200 REM LOAD/RUN MENU
ZS 10210 TWINDEX=1:GOSUB 13200:FILE=1:HIG
   HLIGHT=1:GOSUB 6060:RETURN
AK 10400 REM ENTER A "LIST"ed PROGRAM
OV 10410 GOSUB 4500:POSITION 1,2:? "NEW"
HH 10420 POSITION 1,5:? "ENTER ";;CHR$(34
   );FILESPEC$;CHR$(34):POSITION 1,0:END
JI 10600 REM LOAD A "SAVE"d PROGRAM
UM 10610 GOSUB 4500:LOAD FILESPEC$
QH 10800 REM RUN A "SAVE"d PROGRAM
LD 10810 GOSUB 4500:RUN FILESPEC$
QK 11000 REM UTILITIES MENU
AD 11010 TWINDEX=2:GOSUB 13200:FILE=1:HIG
   HLIGHT=1:GOSUB 6060:RETURN
WP 11200 REM COPY
LZ 11210 IF STAT$="D" THEN RETURN
EH 11220 XIO 3,#1,4,0,FILESPEC$:BYTES=USR
   (ADR(MC2$),7,BUFFER,BSIZE):XIO 12,#1,0
   ,0,"D:"
GS 11230 GOSUB 12600:IF I>1 THEN FILESPEC
   $(3)=FILENAME$:GOTO 11270
RK 11240 REM Copy:change disks
KV 11250 POSITION 3,19:? #6;"          In
   sert disk"
ZG 11260 IF PEEK(764)=255 THEN 11260
MD 11270 REM Copy:output file in buffer
IK 11280 XIO 3,#1,8,0,FILESPEC$:BYTES=USR
   (ADR(MC2$),11,BUFFER,BYTES):XIO 12,#1,
   0,0,"D:"
KE 11290 POKE 764,255:UPDATE=1:RETURN
PK 11400 REM DELETE
KR 11410 IF STAT$<>" " THEN RETURN
XA 11420 XIO 33,#1,0,0,FILESPEC$:STAT$="D
   ":CHARCODE=36:UPDATE=2:RETURN
MV 11600 REM LOCK
KX 11610 IF STAT$<>" " THEN RETURN
WO 11620 XIO 35,#1,0,0,FILESPEC$:STAT$="*
   ":CHARCODE=10:UPDATE=2:RETURN
QP 11800 REM RENAME
LD 11810 IF STAT$<>" " THEN RETURN
DI 11820 GOSUB 12600:IF I=0 THEN RETURN
EK 11830 FILESPEC$(P,P)=",":FILESPEC$(P+1
   )=FILENAME$
MG 11840 XIO 32,#1,0,0,FILESPEC$:UPDATE=1
   :RETURN
ZQ 12000 REM UNLOCK
RF 12010 IF STAT$<>"*" THEN RETURN
XE 12020 XIO 36,#1,0,0,FILESPEC$:STAT$="
   ":CHARCODE=0:UPDATE=2:RETURN
VJ 12200 REM VIEW
MB 12210 IF STAT$="D" THEN RETURN
GS 12220 GOSUB 12800:IF NOMATCH THEN RETU
   RN
OG 12230 POKE 559,0:POSITION 3,19:? #6;"
                          "
QH 12240 POKE 89,VSCRNHI:POKE DLIST+9,VSC
   RNHI
WY 12250 TWINDEX=3:GOSUB 13200:? #6;CHR$(
   125):POSITION 0,0:POKE 559,34
TH 12260 ? #6;BUFFER$(1,BYTES);:IF PEEK(8
   4)>17 THEN GOSUB 12400:IF ESC THEN 122
   90
FL 12270 BYTES=USR(ADR(MC2$),5,BUFFER,128
   ):IF BYTES THEN 12260
OQ 12280 GOSUB 12400
PE 12290 XIO 12,#1,0,0,"D:"
RY 12300 POKE 89,SCRNHI:POKE DLIST+9,SCRN
   HI:TWINDEX=2:GOSUB 13200:POKE 764,255:
   RETURN
FY 12400 REM View:pause when screen full
ED 12410 ESC=0:POKE 764,255
WL 12420 IF PEEK(764)=28 THEN ESC=1:POKE
   764,255:RETURN
CX 12430 IF PEEK(764)<>33 THEN 12420
LY 12440 ? #6;CHR$(125):POKE 764,255:POSI
   TION 0,0:RETURN
EF 12600 REM GET FILE NAME
```

DISK FILE MANAGER

```
XI 12610 POSITION 3,19:? #6;"Name D:"
BJ 12620 XIO 3,#1,4,0,"K:":FILENAME$="
            ":I=0
LT 12630 GET #1,KEY:IF KEY=155 THEN XIO 1
   2,#1,0,0,"D:":RETURN
NL 12640 IF (KEY=126 AND I>0) THEN FILENA
   ME$(I,I)=" ":I=I-1:POSITION COL+I,ROW:
   ? #6;" ":GOTO 12630
MF 12650 IF I=12 THEN 12630
XK 12660 IF  NOT (KEY=46 OR (KEY>=48 AND
   KEY<=57) OR (KEY>=65 AND KEY<=90)) THE
   N 12630
JH 12670 POSITION COL+I,ROW:? #6;CHR$(KEY
   ):I=I+1:FILENAME$(I,I)=CHR$(KEY):GOTO
   12630
QM 12800 REM GET LINE NUMBER
GM 12810 POSITION 3,19:? #6;"Enter starti
   ng line >"
OY 12820 XIO 3,#1,4,0,"K:":LINE$="     ":
   I=0
ZQ 12830 GET #1,KEY:IF KEY=155 THEN XIO 1
   2,#1,0,0,"D:":GOTO 12880
IF 12840 IF (KEY=126 AND I>0) THEN LINE$(
   I,I)=" ":I=I-1:POSITION COL+I+14,ROW:?
    #6;" ":GOTO 12830
TC 12850 IF I=5 THEN 12830
IU 12860 IF  NOT (KEY>=48 AND KEY<=57) TH
   EN 12830
KC 12870 POSITION COL+I+14,ROW:? #6;CHR$(
   KEY):I=I+1:LINE$(I,I)=CHR$(KEY):GOTO 1
   2830
CS 12880 REM Get line number:check it
AZ 12890 NOMATCH=0:IF I THEN LINE=VAL(LIN
   E$):IF LINE>32767 THEN NOMATCH=1:RETUR
   N
SM 12900 XIO 3,#1,4,0,FILESPEC$
VM 12910 BYTES=USR(ADR(MC2$),5,BUFFER,128
   ):IF I=0 THEN RETURN
DC 12920 IF BYTES=0 OR PEEK(764)=28 THEN
   12980
GP 12930 PLINE$="     ":FOR I=1 TO 5:TEMP
   $=BUFFER$(I,I)
IH 12940 IF TEMP$=" " THEN POP :GOTO 1296
   0
NG 12950 PLINE$(I,I)=TEMP$:NEXT I
YK 12960 PLINE=VAL(PLINE$):IF PLINE>=LINE
    THEN RETURN
DY 12970 GOTO 12910
KJ 12980 XIO 12,#1,0,0,"D:":NOMATCH=1:POK
   E 764,255:RETURN
RZ 13000 REM UPDATE SCREEN
QS 13010 P=OFFSET(FILEBASE+FILE-1):ADDR=H
   LADDR(FILE)
BH 13020 DIRECTORY$(P,P)=STAT$:POKE ADDR-
   2,CHARCODE:RETURN
KD 13200 REM DISPLAY MENU
MJ 13210 PAGE=TEXTWINDOW(TWINDEX)
JX 13220 POKE DLIST+30,0:POKE DLIST+31,PA
   GE:RETURN
UG 13400 REM GET DIRECTORY SPECIFICATION
HH 13410 POSITION 3,19:? #6;"Spec D:"
EG 13420 XIO 3,#1,4,0,"K:":DIRSPEC$="
            ":I=0
LP 13430 GET #1,KEY:IF KEY=155 THEN XIO 1
   2,#1,0,0,"D:":RETURN
FW 13440 IF (KEY=126 AND I>0) THEN DIRSPE
   C$(I,I)=" ":I=I-1:POSITION COL+I,ROW:?
    #6;" ":GOTO 13430
LE 13450 IF I=12 THEN 13430
MP 13460 IF  NOT (KEY=42 OR KEY=46 OR KEY
   =63 OR (KEY>=48 AND KEY<=57) OR (KEY>=
   65 AND KEY<=90)) THEN 13430
JQ 13470 POSITION COL+I,ROW:? #6;CHR$(KEY
   ):I=I+1:DIRSPEC$(I,I)=CHR$(KEY):GOTO 1
   3430
TS 13600 REM ERROR TRAP
LN 13610 ERROR=PEEK(195):POKE 764,255
HW 13620 POSITION 3,19:? #6;"Error# ";ERR
   OR;"- Press key to continue"
```

```
CU 13630 IF PEEK(764)=255 THEN 13630
ZS 13640 XIO 12,#1,0,0,"D:":POKE 764,255:
   TRAP 13600:RETURN
FB 20000 REM MAIN PROGRAM CONTROL
DB 20010 GOSUB 25000:REM Initialise
IC 20020 GOSUB 1000:REM Main menu
EU 20030 GOSUB 5000:REM Get option
AP 20040 IF KEY=21 OR KEY=28 THEN 20120:R
   EM Basic
DD 20050 IF KEY=58 THEN GOSUB 1500:REM Di
   rectory
EM 20060 IF KEY=56 THEN GOSUB 2000:REM Fo
   rmat
ZV 20070 IF KEY=0 THEN GOSUB 2500:GOTO 20
   020:REM Load/run
SM 20080 IF KEY=62 THEN GOSUB 3000:REM Sy
   stem
VN 20090 IF KEY=11 THEN GOSUB 3500:GOTO 2
   0020:REM Utilities
FO 20100 IF KEY=46 THEN GOSUB 4000:REM Wr
   ite DOS
XT 20110 GOTO 20030
GK 20120 REM GO TO BASIC
RV 20130 GOSUB 4500:SETCOLOR 1,0,2:SETCOL
   OR 2,0,6:SETCOLOR 4,9,2:END
GE 25000 REM  INITIALISE
TK 25010 REM Reserve space
ZG 25020 GRAPHICS 12:POKE 559,0:RAMTOP=PE
   EK(106)
UW 25030 MENUS=RAMTOP-4:TOPLINE=MENUS-1:V
   SCRNHI=TOPLINE-5
PD 25040 POKE 106,VSCRNHI:GRAPHICS 12:POK
   E 559,0:POKE 106,TOPLINE
QB 25050 SCRNLO=PEEK(88):SCRNHI=PEEK(89):
   KEYREP=PEEK(730):POKE 730,1
WQ 25060 POKE 16,64:POKE 53774,64:POKE 82
   ,1:POKE 83,39:POKE 752,1
FE 25070 SETCOLOR 1,0,2:SETCOLOR 2,0,6:SE
   TCOLOR 4,9,2
MY 25080 REM Set up display list
HC 25090 DLLO=128:DLHI=TOPLINE:DLIST=DLLO
   +256*DLHI
XF 25100 FOR I=0 TO 37:READ A:POKE DLIST+
   I,A:NEXT I
YK 25110 POKE DLIST+4,0:POKE DLIST+5,TOPL
   INE
MJ 25120 POKE DLIST+8,SCRNLO:POKE DLIST+9
   ,SCRNHI
VB 25130 POKE DLIST+36,DLLO:POKE DLIST+37
   ,DLHI:POKE 560,DLLO:POKE 561,DLHI
AL 25140 REM Set up top line
YU 25150 POKE 88,0:POKE 89,TOPLINE
NA 25160 POSITION 0,0:? #6;"      >>  DIS
   K  FILE  MANAGER  <<       "
PV 25170 POKE 88,SCRNLO:POKE 89,SCRNHI
TC 25180 REM Set up text windows
SQ 25190 DIM TEXTWINDOW(3),MENULINE$(38)
RU 25200 FOR I=0 TO 3:PAGE=MENUS+I:TEXTWI
   NDOW(I)=PAGE
GR 25210 POKE 660,0:POKE 661,PAGE
HD 25220 FOR J=0 TO 3:READ MENULINE$:POKE
    656,J:POKE 657,1:? MENULINE$;:NEXT J:
   NEXT I
BQ 25230 TWINDEX=0:GOSUB 13200
TE 25240 REM Initialise variables
SG 25250 DIM FILE$(17),DIRECTORY$(17*64),
   MC1$(21),MC2$(38),OFFSET(64),HLADDR(32
   )
XN 25260 DIM FILESPEC$(30),DIRSPEC$(12),F
   ILENAME$(12),TEMP$(1),STAT$(1),LINE$(5
   ),PLINE$(5)
AP 25270 BSIZE=12800:DIM BUFFER$(BSIZE)
YD 25280 BUFFER$(1)=" ":BUFFER$(BSIZE)="
   ":BUFFER$(2)=BUFFER$
XK 25290 BUFFER=ADR(BUFFER$):COL=10:ROW=1
   9:DIRIN=0:UPDATE=0:TRAP 13600
CZ 25300 REM Machine code strings
DY 25310 FOR I=1 TO 21:READ A:MC1$(I,I)=C
```

continued ☛

DISK FILE MANAGER

```
   HR$(A):NEXT I
LB 25320 FOR I=1 TO 38:READ A:MC2$(I,I)=C
   HR$(A):NEXT I
SA 25330 REM Offsets into DIRECTORY$
XO 25340 P=1:FOR I=1 TO 64:OFFSET(I)=P:P=
   P+17:NEXT I
TA 25350 REM Highlight addresses
VL 25360 ADDR=SCRNLO+256*SCRNHI+44:FOR I=
   1 TO 32 STEP 2
TG 25370 HLADDR(I)=ADDR:HLADDR(I+1)=ADDR+
   19
YR 25380 ADDR=ADDR+40:NEXT I
KI 25390 REM Main screen
HZ 25400 POSITION 1,17:? #6;"┌──────────
   ──────────────────────────────┐"
IW 25410 POSITION 1,18:? #6;"|Files:    Se
   ctors-Used:      Free:      |"
VU 25420 POSITION 1,19:? #6;"|
                               |"
EG 25430 POKE 559,34:RETURN
OI 25440 REM Data for new display list
CO 25450 DATA 112,112,16,66,0,0,48,66,0,0
   ,2,2,2,2,2,2
EQ 25460 DATA 2,2,2,2,2,2,2,2,2,2,2,2,2,6
   6,0,0
IJ 25470 DATA 2,2,2,65,0,0
XS 25480 REM Data for menus
YC 25490 DATA | Basic        Loaad/run  Wri
   te  Space |
AL 25500 DATA | Directory  System       DO
   S   + *  |
KN 25510 DATA | Format      Utilities
       Esc  |
KE 25520 DATA └────────────────────────
   ─────────┘
```

```
KA 25530 DATA |
        Space |
NV 25540 DATA | Enter        Load       Run
        + *  |
TQ 25550 DATA |
         Esc  |
KU 25560 DATA └────────────────────────
   ─────────┘
LX 25570 DATA | Copy         Rename
        Space |
ZQ 25580 DATA | Delete       Unlock
        + *  |
HM 25590 DATA | Lock         View
         Esc  |
JZ 25600 DATA └────────────────────────
   ─────────┘
JT 25610 DATA ┌────────────────────────
   ─────────┐
LF 25620 DATA |    Press : Space for next
   page      |
KC 25630 DATA |           Esc  for menu
             |
KP 25640 DATA └────────────────────────
   ─────────┘
LW 25650 REM Data to highlight file name
IW 25660 DATA 104,104,133,204,104,133,203
   ,160,0,177,203,73,128,145,203,200
TU 25670 DATA 192,11,208,245,96
PX 25680 REM Data for disk input/output
YU 25690 DATA 104,162,16,104,104,157,66,3
   ,104,157,69,3,104,157,68,3
GX 25700 DATA 104,157,73,3,104,157,72,3,3
   2,86,228,189,73,3,133,213
XZ 25710 DATA 189,72,3,133,212,96
```

PROGRAM VARIABLES

Strings

**FILE$** Each entry in the disk directory is read into FILE$ prior to being stored in DIRECTORY$
DIRECTORY$ Disk directory
DIRSPEC$ File specification for directory access
FILESPEC$ File specification for disk access
STAT$ Status of file (locked, unlocked or deleted)
TEMP$ Temporary storage
FILENAME$ New name for copy or rename routines
MC1$ Machine code to highlight a file
MC2$ Machine code for disk in/output
BUFFER$ Input/output buffer
MENULINE$ Menu data is read here prior to being printed in the text window
LINE$ Starting line number for viewing a program
PLINE$ Program line number in buffer

Arrays

OFFSET File offsets into DIRECTORY$
HLADDR Screen addresses for file highlights
TEXTWINDOW Text window addresses for menus

Numerics

BSIZE Size of buffer used for file input/output
BUFFER Address of input/output buffer
BYTES Number of bytes passed to/received from input/output routine
RAMTOP Top of RAM - moved to reserve space for the menus, the top line and the viewing screen
SCRNLO Low byte of address of top of screen RAM
SCRNHI High byte of above
VSCRNHI High byte of viewing screen RAM
DLIST Display list address
DLLO Low byte of above
DLHI High byte of above
MENUS High byte of address where data for the menus is stored
PAGE Page counter for the above
TOPLINE High byte of the address where data for the top line is stored
TWINDEX Indicates which menu to access, (range 0-3)
COL Cursor column position
ROW Cursor row position
KEY Value of keyboard input
NUMFILES Number of files loaded into DIRECTORY$
USED Number of sectors in use
UNUSED Number of sectors not in use
FILEBASE Indicates which block of files to access in the program, (1 or 33). The maximum number of files in the buffer is 64 and they are accessed in blocks of 32
FILE File counter
FLASH Loop counter for flashing cursor
DIR Direction of highlight, -1 = up 0 = no movement 1 = down
LINE Starting line number moved from LINE$ for comparison
PLINE Program line number to be compared
ADDR Current address being processed
KEPREP Store for the key repeat default value
UPDATE Initially set to 0 - set to 1 or 2 after a disk operation depending on type performed, 1=read directory 2=update screen
CHARCODE ASCII of prompt character
I Loop and string position counter
J Loop counter
A Data read here prior to being stored in a machine code string
P String pointer
X Dummy used in USR routine
ERROR Error number

Program flags

- in all cases 0 = off 1 = on

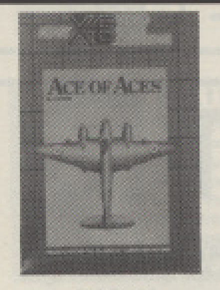
DIRIN Disk directory read into DIRECTORY$
HIGHLIGHT Highlight file
CHARFLAG Character to be printed to prompt user for keyboard input
NOMATCH Matching line found in the program buffer
ESC Escape key pressed

THE ACCESSORY SHOP
ISSUE 66

CLASSIC ROMS
AVAILABLE AGAIN!

A lot of the games that long time owners regard as the original classics have been unavailable for some time but we are delighted to be able to bring you, once again, a selection of those classic cartridges - including some of the best games ever for your Atari. If these games are not in your collection, your collection is not complete. And if you are a new owner these are guaranteed winners - grab a couple today!

ACE OF ACES



At last a good flight simulator once again! Although not a straight flight sim, this excellent World War II game has all the challenge and sense of flying that you would expect from a flight simulator. Ace of Aces puts you in the cockpit of a Mosquito, the maverick RAF fighter bomber that shot down 659 enemy aircraft and 500 V-1 Buzz Bombs in WW2. It's a white knuckle aerial combat situation with the gut-wrenching pressure of enemy confrontation. Four missions to challenge you - select your weapons, watch your fuel, decide your plan of attack from the intelligence reports and start that engine. The adrenaline will be flowing!

ROM CARTRIDGE

OUR PRICE £7.95

RESCUE ON FRACTULAS



One of the all time classics available again. You need to rescue the Ethercorps pilots stranded on the planet Fractulas by flying your rescue craft in through the mountains and completing the tricky landing. You don't have long as the pilots will soon die in the poisonous atmosphere. Designed by George Lucas, of Star Wars fame, and regarded the turning point of home computer game design. Part flight simulator, part arcade shoot, totally addictive, totally compelling.

ROM CARTRIDGE

OUR PRICE £7.95

LODE RUNNER



Back again, but only for a short time. One of the most highly rated and challenging platform games of all time that let's you play forever! Uniquely for a ROM game, Lode Runner allows you to create your own games and levels, if you have a disk drive, with its built in editor. Run, jump and blaze your way through the catacombs in 75 challenging levels before you start to design your own. Sure to be in great demand but we only have a limited stock.

ROM CARTRIDGE

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TENNIS

Forehands and backhands, driving approach shots, angled volleys, overhead smashes and tricky lobs - you've got all the strokes in Tennis! Plus a wicked serve that goes where you want it. Here's the action packed game that challenges you to play at your best. Play singles against the computer or another player or doubles against another player. Either way the action is fast and furious.

ROM CARTRIDGE
OUR PRICE £6.95

POLE POSITION

Everyone has heard of Pole Position, the racing game that inspired almost every racing game since. It may be the original and some other games may have added features but Pole Position still retains its challenge after many years. One of those games that has exactly the right balance of game play and graphics to make it a classic that will last forever. If it is not in your collection, make amends now while it is still available

ROM CARTRIDGE
OUR PRICE £5.00

MILLIPEDE

Creepy crawly bugs like jumping spiders, buzzing bees, bouncing beetles, mosquitoes, dragonflies, inchworms and earwigs have invaded your garden patch - and you've got to blast fast to get rid of them! But watch out! The millipedes are the most insidious insects of all! Fast action graphics and real bug sounds make this game just like the arcade smash hit. Uses joystick or TRAK-BALL.

ROM CARTRIDGE
OUR PRICE £5.95

JOUST

In days of olde when knights were bolde - they never saw anything like this! You don your helmet, hoist your lance - and mount your ostrich to do battle with the evil Buzzard Riders in deep space! Pterodactyls to the right of you, alien eggs to the left - learn to fly so you won't die so very far from home. All the thrills of the arcade game for one or two players.

ROM CARTRIDGE
OUR PRICE £6.95

BASKETBALL

The original basketball game gets back to basics but, like the VCS version, is lots of fun. You can dribble, shoot, pass, block shots and even make steals. Five different game variations allow up to four players to compete on the 400/800 and two on the XL/XE. Sometimes, like the early games, simple graphics can mean addictive play and a lot of fun!

ROM CARTRIDGE
OUR PRICE JUST £4.00!

ALL ITEMS ON THIS PAGE ARE NEWLY FEATURED THIS ISSUE - ALSO NEW ARE OGRE AND BATTALION COMMANDER ON DISK ***- SEE OVERLEAF***

More new software

OGRE



Challenge the Ogre, a cybernetic supertank programmed to coldly annihilate anything in its path. Set on 21st century battlefields, this game of strategy is for either one or two players. Conventional forces such as nuclear-armed tanks, speed vehicles, howitzers and infantry must be skilfully deployed to defend a command post. The composition and placement of units is critical in destroying the Ogre which has multiple weapon systems and thick armour plating. Ogre is an adaptation of a well-respected board game and will appeal to all strategy fans. A game editor is included for lasting appeal.

DISK ONLY **OUR PRICE £6.95**

BATTALION COMMANDER



NOW ON DISK!

An exciting real-time tactical game with you as lieutenant colonel in charge of an entire armoured battalion. Choose from five different scenarios from a training mission against a Soviet tank battalion to tough assignments against the Chinese. You can adjust the relative strengths of your forces and the opposition and choose from 40 different terrain maps and five different scenarios. Enough variety to last for years!

DISK **OUR PRICE £5.95**

DRUID



Another classic in which, as Last of the Great Druids, you wander through the Dungeons of Acamantor with your mighty Golem by your side on a quest to destroy the four demon princes. As you delve deeper into the dungeons you will find chests containing spells of formidable power to aid you and Pentograms of Life which will heal and revitalise you. Excellent graphics and superb gameplay have made this one of the best arcade adventures on the Atari.

DISK ONLY **OUR PRICE £3.95**

FOOD FIGHT



Charley loves to eat. One day he visits the carnival and heads straight for the Food Fight contest. Help Charley hurl mounds of fabulous food at disgruntled chefs. Spinach, bananas, tomatoes, watermelon will be thrown about as you try and make the chefs retreat. You are after the giant ice cream cone that awaits if you make it across the screen. Enjoy the fight ... and the mess!

ROM **OUR PRICE £7.95**

CENTIPEDE

Imagine you live in an enchanted mushroom patch filled with bothersome bugs. Get those Centipedes with your bug blaster. Watch out for the spiders, fleas and scorpions, they all have magical powers - and they are after you! 1 or 2 players

ROM CARTRIDGE
OUR PRICE £5.00

ASTEROIDS

Asteroids surround you! Use your photon cannon to defend your spacecraft from a field of asteroids. These enemy asteroids become progressively smaller, swifter and more dangerous. Watch out for enemy saucers too! For 1 or 2 players.

ROM CARTRIDGE
OUR PRICE £5.00

ARCHON

A unique battle combining elements of fantasy with the strategy of the chessboard. Your men represent the forces of good and evil and when they each occupy the same square the board bursts into life with banshees, goblins and sorceresses. They cast spells, throw flames, even take on each other's shapes and characteristics. You can play the Light or the Dark either alone or with another player. A totally unique game.

ROM CARTRIDGE
OUR PRICE £7.95

HARDBALL

All the thrills of American baseball can be yours on a summer afternoon in the ballpark. Sit behind home plate, along the left field line, down the right field line or join the manager in the dugout. Look over the pitcher's shoulder as he throws the next ball. You control all the action of the batsmen, pitchers and fielders as you try and battle your way to the top of the league. An exciting game for one or two players.

ROM CARTRIDGE
OUR PRICE £7.95

PLASTRON

Take your place in a small band of pirates out to steal fossil fuels from the biggest corporation in the galaxy. You must guide your shuttle craft along the surface of the planet Plastron to collect as much fuel as you can from the heavily defended mine zones and then rendezvous with the supply tank at the end of each level. Plastron got a good review in New Atari User and has some excellent graphics.

CASSETTE ONLY **OUR PRICE £2.95**

BATTLECRUISER

If you are a wargamer who has fought land battles before then you may need to learn new skills to do battle at sea. Battlecruiser gives you the opportunity to recreate naval engagements during Word War I between Great Britain and Germany or the World War II surface battles between Britain/France and Germany/Italy. There are 79 classes of ship to control as every aspect of famous battles is recreated. An extensive manual gives details of all of the ships and guides you through every aspect of play.

DISK ONLY **OUR PRICE £7.95**

US FOOTBALL



American Football is a big craze in this country and you can now play at home. Outsmart the defence, pass with amazing accuracy, run with speed and agility, make tackles, select offensive and defensive plays and more. You can take on the computer in a practice game or challenge a friend to a dramatic video bowl game of your own in a packed stadium. All the thrills of the gridiron

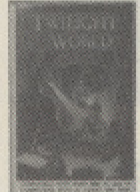
ROM CARTRIDGE **OUR PRICE £7.95**

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TWILIGHT WORLD

Enter the Twilight World. Equipped with the latest in anti-gravity pods and Laser weaponry, battle your way through each of the eleven dungeons defeating their fiendishly devious inhabitants along the way. A game from Atari themselves!



AZTEC CHALLENGE

At the ancient Mexican pyramid of Tenochtitlan the Aztec gods have demanded a human sacrifice. You are one of the chosen! Your only hope of escape is to survive a series of tests in which your agility and stamina are pushed to the limits. Over the centuries your race has developed amazing abilities in running, jumping and leaping - your only chance of surviving the epic Aztec challenge.



FRUIT MACHINE SIMULATOR

Code Masters version of the fruit machine that they claim is the first real fruit machine simulator. Features include Cash Box, Nudge Box (with Compu-Nudge and Nudge Bank), Skill Climb, Winning Streak, Cash Gamble, Holds and Mega-Holds, Skill Chances and Party Time Meter.



MICRO RHYTHM

Microrhythm converts your computer into a programmable drum system. All of the realistic drum sounds were digitised using the Replay sampling system and eight drum sounds can be arranged in 29 different drum patterns. Annoy the neighbours without buying a drum kit!



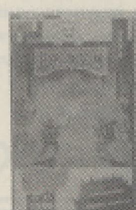
LEAGUE CHALLENGE

Manage your favourite football team your way. No more matches lost because the manager chose the wrong team or played a wrong combination. Now it's your chance to go for Division One or win the league and cup double. You may even find the manager's job is harder than you imagined!



DARTS

Step up to the oche and enjoy all of the fun of competition darts that includes three dart games for the price of one. A choice of these popular games; 501, Round the Board and Cricket are available in this package.



PHANTOM

Something strange has been happening, something quite unnatural. At first no-one took much notice. Those who had experienced it were considered crackpots but now the number of crackpots were too numerous - something strange was indeed going on. Another cracker from Zeppelin Games.



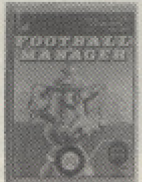
MR DIG

An old favourite in which Mr Dig has to dig for hidden food supplies in the 'Meanie' territory below ground. As he digs he can eat cherries or crush the Meanies with apples. Special treats earn extra points and a Magic Power Orb can kill all the Meanies.



ON CUE

Control that cue ball! A challenging real life simulation which combines Pool and Snooker on the same cassette. An absolute must for both enthusiasts and beginners alike. If you have ever wanted to be at the Crucible taking part in the World Championships, now's your chance to practice.



FOOTBALL MANAGER

Manage the team of your choice. Features include Transfer Market; full League tables; injuries; save game facility; promotion and relegation; FA Cup matches; managerial rating; 4 divisions; as many seasons and you like; pick your team for each match and seven skill levels.



STRATOSPHERE

It's five years on, the battle for human life has been successful but only to a point. The remnants of the alien force still menace Earth and it's your task to destroy them once and for all. Some really excellent graphics add spice to this space shoot 'em up.



MOLECULE MAN

Lost in a maze with 256 locations you must fight against time and lethal radiation to survive and teleport to safety. Also included is an easy to use, Maze Designer which will allow you to edit the existing game or create a new version. Nice 3-D graphics as you locate and fit 16 circuit boards to escape



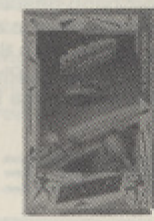
SPACE WARS

Hideous aliens, ground bases bristling with guns, fiendish flying formations and an asteroid belt or three just to keep you on your toes! All you've ever wanted from a shoot 'em up with incredible playability makes this a must for any serious game player. Be warned, it's not for wimps. Be good or be gone!



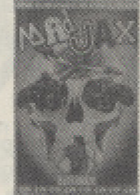
LAS VEGAS CASINO

Save your money yet again by staying at home but this time you can visit many different tables in the Casino. Choose from Black Jack, Craps, Baccarat or Roulette, names that conjure up the atmosphere of the Las Vegas casinos, a world of high stakes. You have $1,000 but the jackpot of $50,000 is waiting!



SIDEWINDER

The original Sidewinder has you flying the high-tech Sidewinder hunter-killer helicopter through spectacular underground caverns, past the enemy defences and security systems to your home base on the hospitable surface. More great graphics from Zeppelin Games



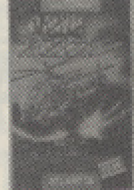
MAD JAX

Someone has been lobbing shells into your nice, cosy little domed city threatening to force the population out into the radioactive wastelands outside. Take up the fast action as you race your heavily armed buggy through the enemy defences. Fight off their forces and survive or your city dies with you.



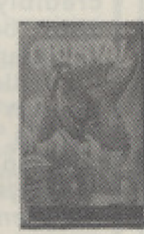
POGOTRON

You have been stranded on a hostile planet, alone, except for the 'turbo-pogo', the only means of transport. You have the plans for a space ship and the search is on to find the equipment and then build the space ship to escape. The final danger is the Guardian who must be destroyed before you can be free.



DAWN RAIDER

Fly your heavily armed helicopter gun-ship into the fortified complex of the super criminal that is holding the world to ransom with his nuclear armed rockets. Guide your gun-ship through the great underground cavern, shooting and bombing the defence systems to stop the destruction of the world's cities.



CRYSTAL RAIDER

Solve the problems and collect the crystals. Fifty fiendish fatal patterns to be solved! Hours of mind and joystick bending entertainment for those who like their games to infuriate the parts other software cannot reach! Not really an arcade adventure but a series of logic problems to tax you all the way.



PENGON

Can you save Penguin Willy from the ferocious mutant sea lions? Stun them by knocking them against the walls or crush them to a horrifying death with sliding ice blocks. High speed arcade action game, full colour graphics and music.



BMX SIMULATOR

A brilliant version of the epic C64 game. Eye in the sky viewing - amazing realistic simulation, the starting ramp, burms, bumps, water splashes etc. all have realistic effect on the rider. Two player option and seven different courses will test even the best games player.

Any one cassette £1.95 - any two £3.50 - any three £5.00 - any 4 £6.50 - any five £7.50

or select ANY TEN CASSETTES FOR JUST £9.50!

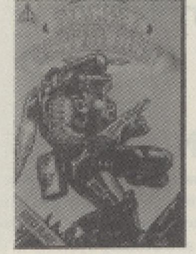
All prices are inclusive of postage

CHECK THE INSIDE BACK COVER FOR ANOTHER 20 CASSETTES TO CHOOSE FROM!

FREE - MASTER CHESS when you order 3 or more cassettes

Still more choice

ROCKET REPAIR MAN



Buried somewhere in the underground maze of caverns of the planet Leskos are essential components of your Astro-ship. Get into your space suit, strap on your Jet Pack and begin the most terrifying descent imaginable. You must collect pieces of a rocket in which you can escape but beware the dreaded Neutino Ghosts and the Quark Phantoms out to stop you. Another neat game from Red Rat.

DISK ONLY **OUR PRICE £3.95**

SILICON DREAMS



Taking the role of Kim Kimberley you are a leading participant in the colonisation of Eden, a planet prepared for human habitation by an advance guard of intelligent robots who battle with the native and highly aggressive fauna. In this highly structured and realistic environment you must move your mind into the twenty-third century. Silicon dreams comprises three excellent graphics adventures - SNOWBALL, RETURN TO EDEN and THE WORM IN PARADISE from Level 9, the masters of adventure

DISK OR CASSETTE **OUR PRICE £5.95**

NEW YORK CITY



Welcome to The Big Apple. This hurried jungle of steel, concrete and glass bristles with fascinating sights and more than its share of danger. From the placid greenery of Central Park, there is no city in the world like New York, and boy are you about to find that out! As a visiting tourist you only have a limited time to see all the sights, but New York City has a little more excitement, a little more danger in store than a mere sightseeing trip to the zoo!

DISK ONLY **OUR PRICE £3.95**

NIGHT MISSION PINBALL



The ultimate arcade simulation with five bumpers, seven stand-up targets, nine rollovers, two spinners and much more. So realistic you have to insert a quarter before you can play. So true to life you can even tilt the computer! Night Mission Pinball offers ten different modes of play for 1 - 4 players. Forty user-adjustable parameters allow you to create your own custom games or redesign any play mode to your own specifications. Beautifully packaged and with an excellent manual, Night Mission Pinball will save you money by keeping you away from the arcades!

DISK ONLY **OUR PRICE £7.95**

GAUNTLET
THE DEEPER DUNGEONS

If you have the original Gauntlet disk then you will know how good the game is and will want to extend play with the Deeper Dungeons. Over 500 new dungeons are here for you to explore. This is the way to revive your interest in Gauntlet and play on for many more hours or days! This is a data disk only and requires the original Gauntlet disk.

DISK ONLY
OUR PRICE JUST £2.95

RAMPAGE

It's rough and tumble all the way as you control three incredibly nasty characters which bear a remarkable resemblance to King Kong, Godzilla and Wolf-man through an orgy of destruction in Chicago, New York and San Francisco. You have 150 days of destruction in 50 different cities. Time for some revenge!

DISK ONLY
OUR PRICE £3.95

THE E FACTOR

The E factor represents the amount of time the energy sources on the planets in our galaxy will last. Many planets need emergency fuel capsules delivered if they are to survive. You must plot the interplanetary course and guide your craft through the quadrants filled with obstacles such as space mines, alien fighters and spinning asteroids. Can you complete a mission and deliver your energy crystal before another planet calls on your services?

DISK ONLY
OUR PRICE £3.95

CROSSFIRE

You are alone in a deserted city surrounded by aliens who shoot lasers from every direction. Your movements are confined but you haven't given up. If you are to survive you'll have to concentrate on where the shots are coming from otherwise you'll be caught in the CROSSFIRE. One of those fairly simple yet highly addictive games.

CASSETTE ONLY
OUR PRICE £2.95

ATARI USER TOOLKIT

Now programmers without a disk drive can take advantage of programming aids normally the preserve of disk drive owners. The Toolkit adds several commands to Basic such as Delete a block of lines, Renumber programs, Change variable names, List Variables, Remove all REMs, Convert Hex to decimal and Print listings to Epson compatible printers. Just boot the tape and all these additional commands are ready to use with your next program.

CASSETTE ONLY **OUR PRICE £2.95**

AIR RESCUE

Peace is shattered as the Military Junta moves against the popular uprising. Civil war rages forcing expatriate Britons into hiding to escape the guns, tanks and missiles of the opposing armies. There is only one way to get them out ... Air Rescue! A cracking arcade game based on the classic Choplifter. Fly your copter and rescue your fellow countrymen but don't get shot down.

CASSETTE ONLY **OUR PRICE £2.95**

THE LIVING DAYLIGHTS

Control James Bond through eight fast and furious levels from Gibraltar to Afghanistan and you will encounter the SAS (friendly), the KGB (not so friendly) and enemy helicopters (very unfriendly!). Your are up against Brad Whittaker, international arms dealer and megalomaniac, Necros, his ruthless sidekick killer and Koshkov, the double dealing KGB General. You may fall in love with the beautiful Czech cellist Kara, but can you trust her?

DISK ONLY **OUR PRICE £3.95**

MONTEZUMA'S REVENGE

Wherever there's mind-bending mystery, hair-raising adventure and non-stop action, Panama Joe is sure to be there. In Montezuma's Revenge he gets more than he bargained for as you help him through 100 danger filled chambers in the Aztec emperor's fortress. The stakes? Priceless treasure. Finding the necessary keys, torches, swords and amulets is no easy task as Joe tries to avoid deadly snakes, spiders and bouncing skulls. Disappearing floors, bridges and laser walls are no picnic either!

DISK ONLY **OUR PRICE £3.95**

Some new ... some old ...

THE ETERNAL DAGGER



A highly recommended follow up to Wizard's Crown, this fully graphics based fantasy role playing game will keep you entranced as you battle through the wilderness in search of the enchanted weapon that alone can save the folk of Middle World. Full of magic, mystery and intrigue this is one of the best adventures on the Atari.

DISK ONLY

OUR PRICE £6.95

BATTALION COMMANDER



An exciting real-time tactical game with you as lieutenant colonel in charge of an entire armoured battalion. Choose from five different scenarios from a training mission against a Soviet tank battalion to tough assignments against the Chinese. You can adjust the relative strengths of your forces and the opposition and choose from 40 different terrain maps and five different scenarios. Enough variety to last for years!

CASSETTE ONLY

OUR PRICE £4.95

SCOOTER

Scooter needs your help to get through the eight levels of his enchanted building. Inventive traps and unusual gimmicks abound. Weird sounds have been heard from the new building and the construction men are spooked. What could it be? It's your job to move Scooter up through the eight levels to find the secret. But don't think it's going to be an easy task!

DISK ONLY

OUR PRICE £3.95

LASER HAWK

Your Laser Hawk helicopter is ready to go, but are you? To destroy the five command centres of the evil Proc Irata, your ship will have to outfly or blast away its incredible defence systems which include air cannons, smart missiles, falling meteorites, heat rays and high level bombers. Eye stunning graphics and unbelievable non-stop action make this game a winner!

DISK ONLY

OUR PRICE £3.95

THE COUNT

One of Scott Adam's famous graphic adventures in which you awake in an antique brass bed in a dank, desolate castle. It soon looks like you are going to meet a certain toothy Transylvanian Count who goes by the name of ... Dracula! Will you escape or become one of the living dead? An adventure with full graphics, moderate level for ages 10 to adult.

DISK ONLY

OUR PRICE JUST £2.95!

BALLBLAZER

The year is 3097 and you are the contestant in the most competitive and by far the most popular sport in the universe. Jump immediately into head-to-head action against a friend or hone your skills against a selection of Droids. Either way, you're in for the match of the century! Excellent graphics and split screen action have made this one of the Atari classics.

DISK ONLY

OUR PRICE £3.95

KNOCKOUT BOXING

Challenge for the Heavyweight Championship of the World by boxing your way past nine progressively more skilful opponents. You will need speed and skill to deliver body weakening stomach punches, points scoring head jabs or deadly upper cuts. Your must remember to keep your guard up or the referee will soon be counting you out.

CASSETTE ONLY

OUR PRICE £3.95

JUNO FIRST

A fast and furious space shoot 'em up translated from Konami's early arcade machine of the same name. Dozens of alien craft will attack from all sides and you must be quick to blast them away and earn your bonuses. If you feel that you are going to die then you can take the last resort and warp away through a kaleidoscope of colour. Similar to invaders, this fast shoot 'em up will appeal to any arcade game fanatic.

DISK ONLY

OUR PRICE £3.95

TRIVIAL PURSUIT

The classic board game translated to the Atari with added question power. Now you can answer questions presented with music and graphics as well as straight text. An ideal family game or one you can play on your own. Over 3,000 questions and all the mechanics of the game taken care of by the computer. Trivia has never been so much fun and has never been available before at this price!

DISK ONLY

NOW ONLY £2.95!

PANZER GRENADIERS

In this exciting solitaire wargame you make the decisions for a regiment of the elite armoured infantry attached to the Panzer Grenadiers. Your forces also include mortar, artillery, Panzer IV, Panther and Tiger units. The Russian enemy is directed by the computer which will fiercely challenge you with its own complement of infantry, tanks and anti-tank guns. Three levels of difficulty, joystick control, hi-res graphics.

DISK ONLY

OUR PRICE £7.95

DECISION IN THE DESERT

Take command at the Battle of El Alamein. You can lead either side in this accurate simulation from the creators of F-15 Strike Eagle

CASSETTE

OUR PRICE £5.95

MIG ALLEY ACE

An aerial combat simulation set in Korea with 3D graphics, cockpit instrumentation, different skill levels and much more

DISK

OUR PRICE £6.95

COLOSSUS CHESS 4

Claims to be the best chess program of all. The writers of Sargon III would disagree, but there is no doub this is a fine chess simulation particularly for advanced players

CASSETTE ONLY

OUR PRICE £3.95

EXTRA CASSETTES

WE HAVE A NUMBER OF OTHER CASSETTES BUT ONLY IN SMALL QUANTITIES - PLEASE PHONE

BLUE MAX

Everyone must have heard of this World War Two 3-D flying game. We no longer have the ROM cartridge but this classic can be yours on disk dirt cheap!

DISK ONLY

OUR PRICE £2.95

FS2 SCENERY DISKS

WE HAVE A LIMITED NUMBER OF SCENERY DISKS IN STOCK AT £9.95 EACH - PLEASE PHONE

MAKE A COMMITMENT

BUY SOMETHING EXTRA

Still Available

GAMES

ZAXXON
One of the all time classics for the Atari, Zaxxon set new standards with its unique 3 dimensional battlefield and great graphics

DISK/CASS OUR PRICE £2.95

TAIL OF BETA LYRAE
Our A-Z of Atari Software series says "The ultimate 'Scramble' clone with superb graphics and music." A great horizontal scroller

CASS OUR PRICE JUST 95p

FIGHT NIGHT
Fight Night brings you all the thrills of the boxing ring as you face the most brutal fighters ever in five separate battles, 1/2 players.

ROM OUR PRICE £7.95

SPEED HAWK
One of Atari's last games for the 8-bit can now be yours at budget price! A smoothly scrolling arcade game in which you must defend the ring worlds of your solar system from pirates.

CASS OUR PRICE £2.95

PANZER GRENADIER
A wargame of German armoured infantry on the Eastern Front. Five historical simulations, skill levels, joystick control, graphics

DISK OUR PRICE £7.95

NIBBLER
Slinking through an unknown land Nibbler finds himself in an iridescent world of constant change. As time grows short his body grows longer and he risks running into himself. Can he survive?

DISK OUR PRICE £1.95!!

JINXTER
An adventure from Magnetic Scrolls, the team that set new standards in adventure design Requires 1050 or XF551 drive

DISK OUR PRICE £7.95

LANCELOT
Level 9 recreate the time of wizards and the Knights of the Round Table in a three part adventure spanning the complete saga of the quest for the Holy Grail. Superbly researched and superbly written this text adventure is full of atmosphere and highly recommended.

DISK OR CASSETTE

OUR PRICE £5.95

ZORK 1
One of the most famous adventures of all time. Classic Infocom in the original box and packaging. A real bargain!

DISK SUPER PRICE £2.95!

US FOOTBALL
American Football is now a big craze in this country and you can now play at home. Outsmart the defence, make tackles, select plays and more.

ROM OUR PRICE £7.95

EASTERN FRONT (1941)
The classic war simulation by Chris Crawford that astounded Atari users when it was released. Based on Operation Barbarossa on the border of Russia.

ROM OUR PRICE £6.95

SUPER BREAKOUT
Breakout was the original simple yet totally addictive game and this enhanced version will provide even more addictive fun. Needs paddles.

ROM OUR PRICE £3.95

ONE ON ONE
Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves

ROM OUR PRICE £7.95

CAVERNS OF MARS
Winner of one of the first Atari programming competitions, this was one of the first vertical scrollers and remains much sought after - LAST FEW WITHOUT BOX BUT WITH FULL ORIGINAL MANUAL -

DISK LOW PRICE £4.95

MAXWELL'S DEMON
A simple yet challenging puzzle game which will get you totally addicted. In fact two games in one for double the fun

DISK OUR PRICE £1.99

MR ROBOT & HIS ROBOT FACTORY
One of the most famous platform games that has you running and jumping over everything in sight. A really classy game

DISK OUR PRICE £1.95





APPLICATIONS

LETTER WIZARD
For those who need a little more sophistication in a word processor, Letter Wizard gives you all of the features you would expect

DISK NOW ONLY £5.95

INVITATION TO PROGRAMMING 2
Entitled Writing Your Own Programs, comprises TWO cassettes and TWO workbooks and does not require Invitation To Programming 1.

CASS OUR PRICE £2.95

MUSIC PAINTER
An exciting educational program that helps to teach music by using colours instead of notes. For children or adults alike

DISK OUR PRICE £7.95

BASIC CARTRIDGE
Some programs, especially some early public domain programs won't run on the XL/XE but they will if you plug in the old version of Basic.

ROM OUR PRICE £3.95

EDUCATION

JUGGLES RAINBOW
A first computer experience for children aged 3 to 6 that teaches the concepts of above, below, left and right plus letter recognition

DISK OUR PRICE £5.95

JUGGLES HOUSE
Another for 3 to 6 year olds teaching the concepts of inside, outside, upper and lower with Juggles' House and Toyshelf.

CASS OUR PRICE £5.95

BOOKS

EASY PROGRAMMING FOR YOUR ATARI MICRO
This book went out of print 3 years ago and we have been searching for a replacement ever since. We are absolutely delighted to have found more stocks of one of the best beginner's books ever published.

REDUCED PRICE £4.95

ATARI ADVENTURES
An excellent book written by adventure expert Tony Bridges covering adventures in general and showing how you can write your own adventures .

OUR PRICE £1.50

WRITING STRATEGY GAMES
If you are fed up with simple arcade style games but are not sure of the maths required in writing 'thinking' games like chess here is a book that will help you out.

OUR PRICE £1.50

ORDER ITEMS FROM THE ACCESSORY SHOP WITH THE ORDER FORM ENCLOSED WITH THIS ISSUE OR WRITE TO PAGE 6, P.O. BOX 54, STAFFORD, ST16 1DR

TELEPHONE ORDERS ACCEPTED ON 0785 213928 USING VISA, ACCESS or SWITCH

contact ... contact ... contact ... contact

FOR SALE

XE SYSTEM: 130XE plus 1050 drive, Epson LX800 printer (little used), printer interface, also 14" colour TV. Plus Mini Office II, Atari Planetarium, several copies of New Atari User with disks, mostly still wrapped. As well as these there are two small black computer stands and some other oddments - all for £225. Tel. Ron on 0440 63002

600XL SYSTEM: 600XL, XC12 tape deck, 18 games tapes and 2 programming books, all in good working order. £25 plus £5 p&p unless collected. Phone Charles on 081 462 5476 day or evening

GOOD HOME WANTED: 800XL, 1050 'Happy' disk drive, 850 interface, drawing tablet, 100's of software titles, mags including PAGE 6 nos 1 - 25, MONITOR, ANTIC, COMPUTE, ATARI USER, ACE etc. (piles of each), loads of books. This is the deal of the century! Any offer considered. Contact 0621 891074 (ask for Kim)

XL SYSTEM: 800XL computer, 1050 disk drive with 50 disks, £125. As new 850 Interface with manual, power supply, printer lead for Centronics type printer, £50. Original software - Wargame Construction Set, £12; Time & Magik, Hawkquest, Maths Blaster and Word Attack, £10 each. Too much to list. Tel. 0673 843421 and ask for Dave

BOOKS/SOFTWARE: The Concise Atari ST68000 Programmer's Reference Guide by K. Peel, £9; Microsoft Write WP, £5; K-Spread 3, £10; F19 Stealth Fighter, £10; F1 Grand Prix, £10; Monulator, £5. All plus postage, all with original docs etc. Write to Paul, 17, Spring Road, Clifton, Shefford, Beds SG17 5RE

XE SYSTEM: One upgraded (256k) 130XE computer complete with cables and psu and joystick. One upgraded 1050 disk drive (pseudo Happy fitted) complete with cables and psu and write protect/disable switch. One black and white monitor (as new). One Microline 82A printer plus 'Xetec' printer interface. Several Atari manuals and books. Plus minimum 100 disks of software giving comprehensive coverage. Also documentation. £300. Phone Derek (0637) 877739 (Newquay)

XL SYSTEM: 800XL, XC12 Data recorder, joystick plus magazines, manuals etc. plus over 130 games on cassette, mostly in original boxes - £60 o.n.o. Phone Leeds 0532 585498

COMPLETE SYSTEM: 800XL, 1050 disk drive with US Doubler/ Spartados upgrade, XC12 recorder (faulty), 1029 printer, all leads and manuals supplied. Lots of software on disk, cartridge and cassette including Mini Office II, FSII and much more. Also back issues of Atari User and Page 6, many books and 2 joysticks. £180 o.n.o. inc. postage. Will throw in a Microprint Interface (£31.95) for free. No splits. Richard Keogh, 26 Auburn Heights, Athlone, Co. Westmeath, Eire

CLASSIC ATARI SETUP: 800XL, XF51, XC12, Centronics printer cable with interface. All power packs, DOS 2.5, DOS XE, MYDOS, Mini Office II, Atari Toolkit, AtariWriter, Turbo Basic and a number of Page 6 disks. Various manuals. £125. D.G. Shipley. Tel. 0621 787747 (Essex)

DRIVE ETC.: 1050 drive fitted with Happy (laser) enhancement, 800XL with Centronics printer interface fitted internally. Omnimon machine code monitor chip fitted. Original packaging. £130. Tel. 0625 420782 (Macclesfield)

CASSETTES/MAGS: I have a number of cassettes, magazines and books for swap or sale. I might have just what you want. Write to J. Adams, 42 Upper Craigour, Rosemount Est., Edinburgh EH17 7SF

ATARI SYSTEM: 800XL, XF551 disk drive with 20 original boxed games and a quantity of Page 6 library disks, 800 48k computer, 1020 printer, 410 cassette deck with 8 games, ICD Printer Interface, paddle controllers, De Re Atari manual, large quantity of PAGE 6 and Atari User magazines. £125. Buyer collects or pays postage. D. Naylor, 147 St. Andrews Road, Coulsdon, Surrey. Tel. 081 668 2610

XL SYSTEM: Two 800XL and 1050 disk drive systems, one with integral printer interface. Both systems complete with all cables, manuals and boxed. Offer includes joystick and some software. £100 each system. Tel. Macclesfield (0625) 501534

800XE SYSTEM: 800XE with 1050 disk drive with Lazer and US Doubler, brand new printer never used, touch tablet, games cartridges, hundreds of games on disks, blank disks, lots of old PAGE 6 magazines. £300 o.n.o. Phone (0203) 222114 after 6pm.

800XL SYSTEM: 800XL keyboard with 1010 recorder and joystick, complete with all original leads, manuals etc. and boxed. All like new, very light use by one adult. £50 o.n.o. Tel. Eastbourne (0323) 728022 day/evening

SURPLUS EQUIPMENT: Atari XE plus 1050 disk drive, £80 inc. postage o.n.o.; 60 budget cassettes (in a case), £60 inc. p&p o.n.o.; 40 full price software disks, £3 - £5 each (less where appropriate) or £140 for all 40 (inc. p&p); PAGE 6/NAU issues 27 -62, 50p each PLUS p&p. PAGE 6/NAU Issue disks 34, 39 and 41 - 63, £20 inc. p&p for all 25; Various books (De Re Atari, Mapping The Atari etc.), £10 each inc. p&p. Open to offers on everything. Ring YORK (0904) 702416 (4 - 6pm Mon to Fri, any time weekends). Ask for Matt.

VARIOUS: Atari 520STFM, £90; Atari 520STE, £105; Atari 400, £25; Atari 800, £40; Atari 800XL (no PSU) with Datacorder, £45; Atari 130XE with Datacorder, £80; Atari 1050, £85; Atari XL/XE 80 column/Centronics interface, £25; Trakball, £8. Also books, cable and connectors (which I can make into full cables if required (not ribbon)). Most items come with extras and all are in good working order. Prices include postage. Tel. Martin on Yeovil (0935) 25974. I'm not leaving the Atari scene, I'm keeping my 1040STE and hoping to get a Jaguar and possibly Lynx. Also wanted cheap 256k SIMMS and upgrade STE's or 1 Meg SIMMS. Not interested in PC standard fast SIMMS with parity, cheapo slow non-parity SIMMS will do. Lastly buy 'Frontier Elite 2' for your 1 Meg ST/E. I've seen the Amiga version and the ST version should be even better

WANTED

SHANGHAI and TAI PEI: Also any clones of the same except Gemini and Zandor. Must be suitable for 800XL and 1050. Please state price. Adrian F. Lines, The Hollies, Herne Common, Herne Bay, Kent CT6 7LA

INSTRUCTIONS: Wanted for cassette versions of Night Mars (including loading instructions) and Ricochet. Also a working 1050 drive and software wanted. J. Adams, 42 Upper Craigour, Rosemount Est., Edinburgh EH17 7SF

LOTS OF STUFF!: The following wanted: 850 Interface handbook/ manual; 1050 service manual; Atari Tech. Ref. Notes; instructions for Kennedy Approach; Superscript Disk (own got damaged) - manual not required; cartridge for Action Toolkit; cartridge for MAC/65 Toolkit; Inside Atari Basic; Basic Reference Manual; Electronic Computer Projects; 101 Tips and Tricks for Atari Computers; Super Archiver II; Touch Tablet; Trakball; Leaderboard Golf; Atari Aces; program which enables 8-bit Atari to be used as security system; Invitation to Programming 1; Colossus 4 Chess on disk; Mickey In The Great Outdoors; Lapis Philosophorum; De Re Atari (updated version). Please state prices or can exchange books, disks, carts etc. R. McGrath, 41 Belvedere Place, Dublin 1, Eire

BOOKS: Has anyone got a copy of the books MATILDA THE COMPUTER CAT and/or SCHOOL DAYS (both published by Creative Pastimes). If you can help please write with price details to Kevin Cooke, 36 Buddle Lane, St. Thomas, Exeter, Devon EX4 1JH or tel. (0392) 431192

DISK DRIVE: Wanted, XF551 disk drive with leads etc., must be reasonably priced and in excellent working order. Also wanted all Atari 800XL/65XE disk, tape and ROM games software collections. Also SoftScan's Alchemist tape to disk transfer utility. If you can help with any of the above please call Oxford (0865) 773288

MANUAL: Manual for the 65XE wanted, to purchase or loan for photocopy. Tel. 081 851 0869

MANUALS/LEADS: Manuals and/ or leads for the following needed: Atari 1050 disk drive, 800XL computer and 1029 printer or where to get hold of them please. London area. Phone Dick on 071 585 0251

WANTED: The Assembler/Editor cartridge. Good price will be paid. Contact Steve on (0827) 895885 (any similar programs on disk/cassette considered)

PEN PALS/HELP

NEW USERS: Hi, our names are Richard (15), Stephen (13), Martin (12), Sam (9) and Kay (8). Our auntie has given us our computer. We are able to use her software which is on both disk and cassette and would like to hear from other users for swaps and help. Please write to us - Adams, 42 Upper Craigour, Rosemount Est., Edinburgh EH17 7SF

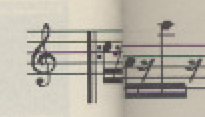
BASILDON: Any Atari 8-bitter in Basildon area to put heads together, swap tips/ideas etc.? Phone Mick on 0268 554991

SPANISH CONTACT: I own an 800XL with 410 cassette and 1050 disk drive. I would like to make contact with other users from everywhere. Also PAGE 6, ANALOG and similar mags wanted. I also need some help on some games - Cloak of Death, Pothole Pete and Space Lobsters. Please write to Ignacio Montoya c) El Greco, 8, 03016 Alicante, Spain

CONTACTS WANTED: I am a long time Classic user of 11 years with a large setup and interests in games and hardware. And has anyone got or have knowledge of a Hard Drive interface. All replies gratefully received. Phone or write to Bradd France, 10 Beaton Close, Willenhall, West Midlands WV13 2BQ. Tel. 0902 634332

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Send your CONTACT notice to CONTACT, PAGE 6, P.O. Box 54, Stafford, ST16 1DR. Please write your notice on a separate sheet of paper, not as part of a letter.

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP ...



MAKING MUSIC WITH YOUR ATARI

BACK TO BASICS

John S Davison's regular guide to music making

After completing the Making Music article for the last issue I suddenly felt guilty about how much I now assume the reader already knows about MIDI and electronic music making. There must be many people just starting to use, or considering using, their Atari computer as a music production tool, who need to learn about the subject from scratch. It's nearly five years (yes, really!) since I wrote the original MIDIot's Guide series of articles about MIDI so, like John Major, I've decided it's time we went back to basics. Over the next few issues I intend to look at MIDI again, starting with the basic concepts then moving on to consider how you can begin using your computer to help fulfil your musical aspirations.

Let's start with considering WHY you'd want to use a computer for music making. After all, musicians have managed perfectly well for centuries without one, so why start now? Well, the computer has evolved into a marvellous general purpose tool for the musician, so why not use one if it can help? It can provide musical education; help compose new music; provide assistance with musical arrangements; generate accompaniments; print out sheet music; and even record and playback complete musical works.

Most of this would be impossible without the parallel evolution of electronic musical instruments such as MIDI equipped synthesisers and their domestic offspring the "portable keyboard" (aka "home keyboard"), as produced by Yamaha and Casio. The synergy resulting from the combination of computers, electronic instruments, and MIDI caused a revolution in music making that's still in progress today. Unbelievably, Atari were probably the catalyst that caused the explosion in MIDI's popularity. They fitted their computers with the hitherto missing, essential link between the computer and electronic instruments. I'm talking about the ST's MIDI ports, of course.

MIDI'S ROOTS

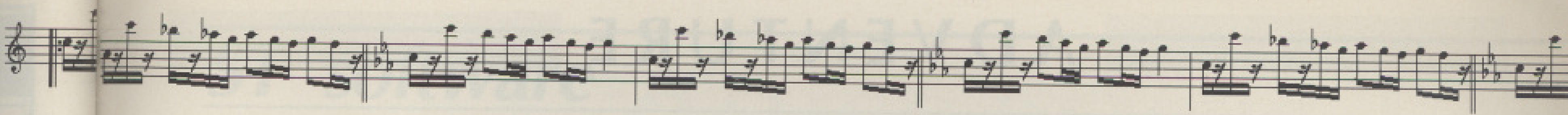
So, what is this MIDI thing and why is it so important? To answer this let's look at where MIDI came from, and start learning some of its arcane jargon as we go. MIDI is an acronym for Musical Instrument Digital Interface, and it was originally designed in the early 1980's as a standard way of connecting together electronic musical instruments from different manufacturers, so you could control and play the sounds generated by one from the keyboard of another - as long as they were both MIDI equipped.

The "Digital" part of the name refers to the method used to send the control commands between instruments. They take the form of electrical pulses, each of which can be considered a binary digit, or "bit", with a value of zero or one. For transmission and storage purposes MIDI packages these pulses together in groups of eight to form a "byte" - a master stroke on the part of MIDI's designers, as this is one of the basic units of data storage used in computers.

The MIDI Standard defines the pulse/bit pattern generated and transmitted when an instrument performs a given action, and hence the bit pattern in the byte used to represent it. Similarly it specifies the effect that value has on an instrument receiving it. In other words it defines the language (or "protocol") used by the instruments to communicate with each other.

Communication between two MIDI instruments takes the form of MIDI "messages", and each message usually consists of one, two, or three bytes depending on its type. The first byte is usually a "status byte", which tells the receiving instrument what action to perform. The rest are "data bytes", providing more detailed information about the action.

To illustrate the principle, let's consider what happens when you press a key on a MIDI keyboard to play a note. The instrument generates a MIDI message consisting of a status byte and two data bytes in this case. The status byte contains a value defining it as a "Note On" (i.e. start playing) command. The first data byte specifies which note to play (i.e. its pitch), and the second one how fast the key was pressed (i.e. its "velocity", which can be interpreted as how loud the note should be played). The three bytes are then transmitted out through a MIDI port on the keyboard, along a MIDI cable which is plugged into it, and into a MIDI port on an instrument on the other end of the cable, which then receives and acts upon them. If set up correctly it immediately begins playing the specified note using its own sound generating circuitry at the specified volume. When you release the key, a "Note Off" command is transmitted in similar fashion and the attached instrument stops playing the note. Simple really, isn't it? This



is just one type of MIDI command, there are lots of others as we'll see later.

THE INTERFACE

The "transmit" and "receive" actions reflect the "Interface" part of MIDI. An interface is simply a boundary between two things, in this case two electronic musical instruments. It has two main properties, namely the language used for communication across the interface (as discussed above), and the physical means of achieving the transfer. The latter includes the electrical characteristics of the communication link, and the specification of plugs, sockets, and cables used for the connection.

MIDI uses a serial link. In other words, the individual bits making up each byte in a MIDI message are sent between instruments one after the other as a stream of bits via a single wire. The receiving instrument reassembles the bit stream back into bytes prior to interpreting them as MIDI messages. This method was chosen as it costs much less to implement and is simpler to use than a parallel transmission system, where all eight bits would be transmitted simultaneously using eight separate wires. The only potential snag is the speed of the link - it has to be fast enough to handle the data transfer without perceptible delay. The MIDI Standard requires that data will be transferred at a rate of 31,250 bits per second, which is more than adequate for most users.

Originally there was a choice of plug and socket types used for connecting instruments, but the industry pretty quickly standardised on just one - the infamous "five-pin DIN" series of connectors as found in many hi-fi systems. For full MIDI facilities each instrument needs three DIN sockets, usually labelled as MIDI IN, for incoming MIDI messages; MIDI OUT, for outgoing messages; and MIDI THRU, for onward transmission of messages received via MIDI IN.

Connection between instruments is achieved using a MIDI cable, which has a five-pin DIN plug on each end. Only three of the pins are used in MIDI applications (the middle three), so it's unwise to use ordinary hi-fi DIN cables for MIDI as the pin connections may be unsuitable and cause problems. It's safer to buy proper MIDI cables from your local musical instrument shop.

The simplest MIDI connection is between a pair of instruments, allowing the sounds of Instrument B to be played from the keyboard of Instrument A. In this case you'd connect a MIDI cable from the MIDI OUT of A to the MIDI IN of B - and start playing. Transmission is ONE WAY ONLY, so if you also want to reverse the process and play A's sounds from B's keyboard without having to mess around reconnecting the cables, you'll need another one-way connection, this time from B's MIDI OUT to A's MIDI IN.

That accounts for the IN's and OUT's, but what about MIDI THRU? Its function is to allow you to connect additional instruments into your system. Continuing our example above you'd connect a cable between the THRU socket of Instrument B and the IN socket of Instrument C, a process known as "daisy-chaining". Then any MIDI messages arriving at B's IN socket would also get forwarded via its THRU to C's IN - and may be actioned by C as well as B. So, from A's keyboard we can play both B's and C's sounds. This process can be repeated with additional instruments, and all their sounds would be accessible from A's keyboard.

d.dditional instruments, and all their sounds would be accessible from A's keyboard.

MIDI CHANNELS

In the above scenario all the instruments would play at the same time, and we might not want that. Wouldn't it be nice if we could "aim" MIDI messages so we could play selected notes on a specific instrument? Well, we can - using MIDI's "channel" concept.

MIDI has 16 transmit/receive channels. Essentially these are just number tags added into the status bytes of MIDI messages. A MIDI instrument can be set to insert a given channel number into each status byte it generates, and is then set to transmit on that MIDI channel. Instruments may also be set to receive and act only upon messages containing a given channel number, and to totally ignore all others. In the example above if instrument A was set to transmit on channel 1, B set to receive on channel 2, and C to receive on channel 3, then when A's keyboard is played only A's sounds would be heard (assuming A always sounds when its keys are pressed). B and C would ignore the messages, as they're all tagged for channel 1. If A's transmit channel is then changed to channel 2, then you'd hear A's and B's sounds. If it's changed to channel 3 you'd hear A's and C's sounds. Get the idea?

It's possible to transmit a stream of messages on different channels, and even though you can use up to 16 channels all the MIDI data still goes down a single cable. The message filtering is handled electronically by each instrument, allowing each one to be played and controlled selectively. This is one of MIDI's cleverest features.

I've actually simplified the description above, as some instruments can operate in any of several MIDI "modes" which affect the number of channels they receive on. It's an unnecessary complication for now, so I'll come back to it in the next issue when we look more closely at MIDI instruments.

THE COMPUTER CONNECTION

We've already noted that MIDI messages use a similar form of data representation to that used by computers. Why don't we fit MIDI sockets to a computer and connect it into a MIDI system? We could then run software on it to read and record MIDI messages from an attached keyboard, store them, and transmit them back later so the computer could "play" the attached instruments. These were Atari's thoughts when designing the original ST, which was launched with MIDI ports fitted as standard, and have remained a unique feature of Atari computers ever since.

An explosion of MIDI equipped electronic music hardware and music related software followed which brought undreamed of creative possibilities to the world's musicians. In fact, it went further than this, because it soon became apparent that you didn't need to be able to play an instrument in the traditional sense to make exciting music using these new facilities. But that's another topic for later discussion.

That's all for now. In the next issue we'll have a closer look at the different MIDI commands available, and how MIDI hardware and software uses them.

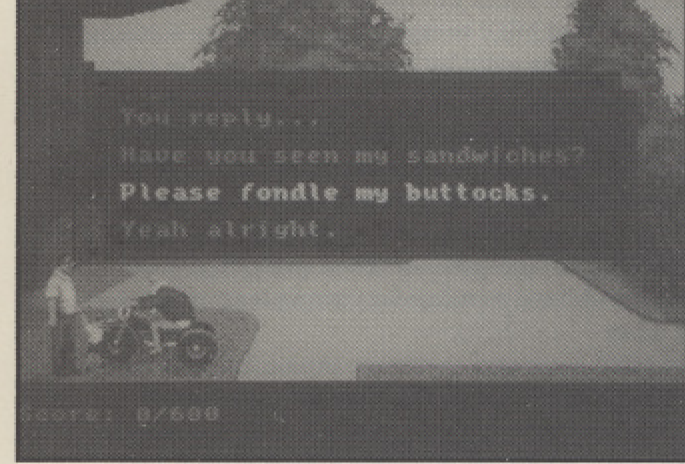
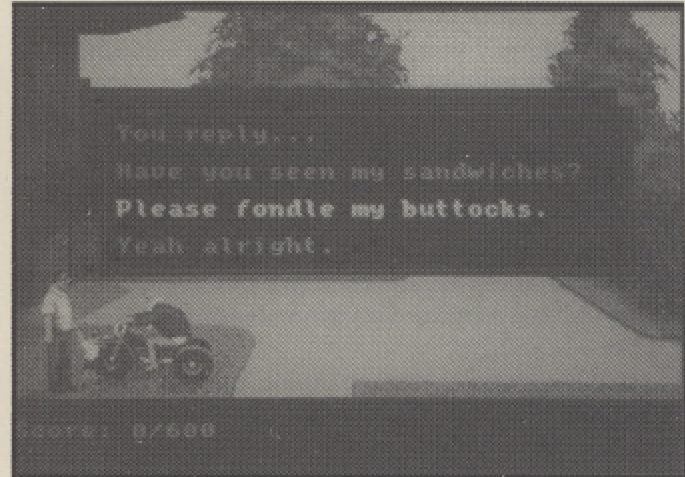
GRANDAD
AND THE SEARCH FOR THE SANDWICHES

Early last year the Shareware scene was treated to a wonderfully humorous, off-beat, graphic adventure game called Grandad and The Search for the Holey Vest in which an unlikely hero wandered around his house looking for his vest. Now we have Grandad 2 and another treat!

Boot up the disk and, in cinema style, the message is displayed "JUST WHEN YOU THOUGH IT WAS SAFE TO WEAR YOUR STRING VEST ... HE'S BACK ... BUT THIS TIME HE'S MEANER ... TOUGHER ... SMELLIER! ... HE *IS* GRANDAD ... AND HE *IS* A MISERABLE GIT!". And so the tone of humour is set, and if this tickles your funny bone you can look forward to some wonderful comments throughout the game.

After the intro, Grandad gets out of his wheelchair, his trousers fall down, and he falls flat on his face. Unperturbed he climbs aboard his motorised trike, in his underpants, and proceeds to the park. Somewhere in the park he has lost his sandwiches and he needs to find them as he is getting peckish. With your help, perhaps he will. The sandwiches are actually in Funland and you won't get in without registering, but there is a great deal of fun to be had in the park first with quite a few locations to explore and people to talk to before you need to register.

Grandad first appears outside the toilets and, sure enough, you can trundle him into the Gents, and the Ladies, to read the Graffiti on the walls! A great opportunity for you to discover what's in the toilets you are not normally allowed into! With this dubious pleasure over, Grandad can zoom off to find people to talk to. Everyone you find will be rude to Grandad, but Grandad can hold his own. As often as not he's the one to start the abuse! Almost every exchange is humorous with plenty of Monty Python thrown in as when Grandad meets a foreign tourist and says 'Please fondle my buttocks'! The foreign tourist presents one of the first problems as he asks Grandad to take his picture. Doing so gains you your first points but then giving the camera back proves to be a rather tricky problem. The tourist turns out to be a nasty piece of work and will stab you when you give the camera back causing the game to be over. If you leave the scene with the camera, however, the police will be called and you will find yourself down the local nick with the game over. Tricky! There are plenty of other ways to die but instead of having to start over again, the clock is just wound back a few moments and you can play the scene again. Wouldn't you just love it if all adventures were like that?

If you do manage to get away then you can have a nice conversation with the local policeman but, of course, being Grandad you are likely to make some silly remark like 'Cor, there's a smell of pork around here'! Further along you can meet a fisherman who threatens to ram his rod down your throat and a tramp who's too drunk to really care. Grandad treats them all the same and doesn't make it easy to find someone to help him in his quest for those sandwiches.

Control is entirely by joystick with set choice actions, which can increase the difficulty in several situations as you can't always do what you might want. Conversations are all by multiple choice selection with appropriate answers but once you have acted, a suitable alternative response is given next time you talk to the same person. Games can be saved and loaded so you can carry on where you left off, if life in the park gets too frustrating.

The graphics are top class with every scene drawn to perfection, and with sound effects ranging from the engine of Grandad's trike, to birds chirping, the click of a camera and more. Grandad's trike glides smoothly about and the whole game conveys a truly professional approach. This is one of the few shareware releases where you will not begrudge having to register to see the rest of the game.

Without doubt Grandad 2 is one of the best shareware releases of all time and one which gives you plenty of scope before you need to register. If only they were all as good as this.

GRANDAD 2 is available as shareware from PAGE 6 on a two disk set for just £2.50 (£1.95 for members of the PAGE 6 ST CLUB). The registration fee is £8 and worth every penny!

PINBALL MAGIC

Pinball, face the facts, is coming back in favour of the space invaders machine. Now it's hit the ST/STE in the guise of Pinball Magic from the re-release of the Loriciels game on the KIXX budget label. Basically you have 12 tables that have to be completed by collecting the letters in the right order and then trying, and I stress the word trying, to go through the exit at the top of the screen to the next level. The game is fast and uses the keys for the flippers and ball release. The instructions for the games keys are a little wrong but a little experimentation will help you find them. The game allows you to play a two player game by alternating at the keyboard.

The sound effects are of the normal beep, bleep and warble that you might find on the average pinball machine. There aren't any of those flashy tunes that you get when you play the real machines that are themed. The graphics on the back of the box for the ST make it look like it might have Commodore 64 graphics but you are comforted by the real graphics which are very close to the Amiga's. The graphics are important in that they add realism to the gameplay and make it more interesting. The graphics achieve this to a certain extent but some of the colour combinations would make my user interface lecturer cringe!

Game play is not quite like that of Pinball Fantasies on other machines but then again this one did come out before that game so in that respect it very good. Play is basic and on only one screen but the ball can be released at varying speeds to give you more control over it. On the subject of control there's a bug in the program that means that the ball gets stuck between two bounce pads on the second level and just stays there bouncing back and forwards totting up your score for evermore until you tilt the table, handy for high scores but totally boring to play.

This game should keep you going for a week or two but not for that long unless you're a total pinball junkie but then you probably won't have time for this game, 'cos you'll be too busy playing the real thing! One thing that is missing is a level select or save game feature so that you could build on those high scores. There is a level select of sorts but its a bit kludgy and doesn't always work properly.

This offering has a nice game in there somewhere but it's finding it that takes patience. If you do then you'll enjoy it but if you find knocking a small metal ball around a table mind numbingly boring then avoid this like the plague.

The average games player will find that this game will keep them happy for the next month or so, definitely worth a look.

Title:	***Pinball Magic***
Publisher:	***Lorciels / KIXX***
Price:	***£9.95***
Reviewer:	***Nicholas Bavington***

THOMAS THE TANK 2

With little new software being released now aimed at younger players this game based on such a well known character will be more than welcome for those whose family share the ST.

Unlike previous programs based on well-known characters, this is not an educational offering but a straight race game that can be played by one player against the computer or by two players head-to head. It is, perhaps, too difficult for the youngest of players but should appeal to ages from 5 or 6 right up to those just reaching their teens.

The aim is to race against your opponent along a track (or road) that has many obstacles and dead-end branch lines, in an attempt to beat your opponent and set a new course record. There are four courses to choose from including the Postal Run and a Woodland Glade and you can choose any of the well known engines as well as Bertie the Bus. The Fat Controller counts you down and the race is on. As this is a race against the clock, as well as your opponent, the temptation is to shoot off at high speed but you'll soon run into trouble. As well as those dead-ends you must stop at signals and avoid other trains which tend to have a habit of reversing along the line. Jumping a signal or crashing will have you standing still for several seconds as a punishment as you watch the other train continue on his journey. Failing to spot an obstacle on the track will have the same effect.

The action takes place on a split screen demanding that you keep an eye on your opponent's progress as well as your own, and you must also keep an eye on the fuel gauge. Racing hard will soon have you running out of water, or out of petrol if you are Bertie, and you must find a water tower or garage to stop and refuel. If you don't you won't get far.

The graphics, from the opening sequence of a book showing the story and credits right through to the race tracks and the record score tables, are excellent and there is a choice of continuous music or just sound effects. The challenge is just about right with record race times of around one and a half minutes which will give children of all ages something to aim for without boredom setting in. With short races the temptation to play again and again is ever present. And, of course you can change engines next time. With eight engines and four courses there are a lot of records to aim for!

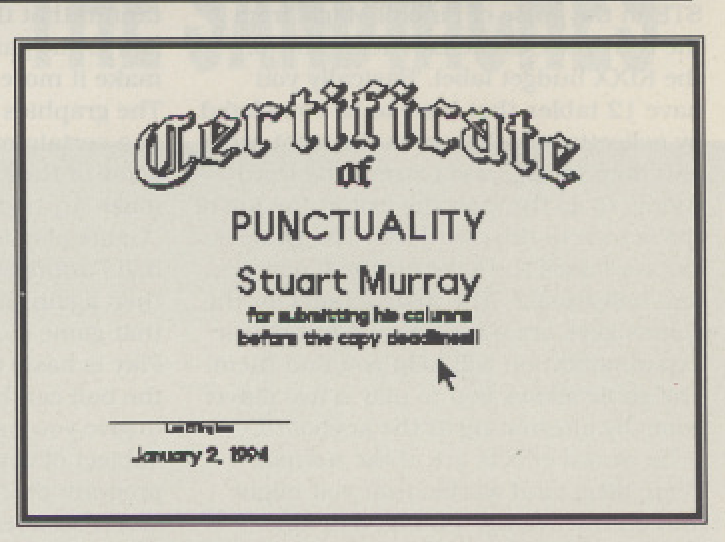
Thomas The Tank 2 is an excellent game for young players and is highly recommended.

Title:	***THOMAS THE TANK 2***
Publisher:	***Alternative Software***
Supplier:	***Various***
Price:	***Check your supplier***
Reviewer:	***Les Ellingham***

ST PUBLIC DOMAIN ROUNDUP



AWARDS APTITUDES and APPLICATIONS



What better way to say thanks than a personalised award?

In PD Roundup this time I thought I'd take a look at some applications for your ST. After all, computers are supposed to be of some practical use aren't they? From the many types of applications available I've chosen an award maker, an aptitude test, and a calendar.

AN AWARD FOR EVERY OCCASION

AWARD MAKER is a program which helps you design and print award certificates. After loading has completed you arrive at the main menu which offers 11 options: Style Number, Title Font, Title, Name/Text Font, Text, Signature, Date, Border Style, Border Colour and Import Picture. It is mainly around these options that Award Maker works.

Style Number loads in the style of award you want to use. As far as I can tell there are 286 award styles to choose from! You just enter the number required and it loads from disk. However, there is no style list so you will have to note the numbers as you use each one. I've used the first 60 so far and these include Writing Award, Student of the Year, Certificate of Promotion, Photography Award, etc. With over 280 on the disk I'm sure you'll find something for your needs. If you can't find something ready made you can use some of the existing styles to create your own personalised award. To do this you just use the Title Font and Title options from the main menu. Title Font allows you to select one of the four fonts provided (Old English, Script Italic, Book Serif and Modern) or load in your own font. There is a font preview box which shows the selected font.

Many of the award styles include pictures. For example, the Geography Award features a world map and a globe. This makes the final result very professional. The later styles on the disk allow you to use the Import Picture option which will load your own pictures.

The Name/Text Font option changes the font for the name to which the award is being presented (set by using the Name option). The same font is then used for the lines of text underneath the name. These lines can be used to describe the award or achievement. Just use the Text option to format the text.

Next up is Signature. This uses a very small font to print the name of the person signing the award. This is printed underneath a line, above which a space is left for the signature.

After completing the Signature you move on to Date. This sets the date on which the award is to be presented.

Border Style and Border Colour must be used to select a border for your award. There are eight impressive borders on the disk, ranging from a simple outline to some detailed patterns.

This version of Award Maker is a beta test version. However, I found very little wrong with it. The only bug was in the border selection screen, where junk appears in the border selection windows. Also, the border names are not shown - you must click on an empty space. As soon as you click in the empty box a new border will load and the junk will disappear. Move the cursor up or down and click again to change the border. When you use the program you'll see what I mean. To assist you with your selection there is a large border preview box which shows a corner of the selected border.

After selecting an award type, entering the data and selecting a border you move onto the print menu. There are three options here: Preview Award, Align Paper and Print Award.

Preview Award is a very handy option which lets you check the whole award before sending it to your printer. Changes can be made at this point by selecting any of the main menu options, accessible from the print menu.

I've printed out quite a few awards and haven't experienced any problems. There are a whole range of printer drivers included with Award Maker, including Epson.

All in all, Award Maker is a very professional program which is quick and easy to use. I couldn't find any documentation on the disk but I got by nevertheless. However, a complete list of all the award styles on the disk would have been very handy! Use the Preview option at the print menu to note the award style numbers. With 286 on the disk, this will take you a couple of hours!

After gaining experience with the prog-

ram and creating an award style number list you will be able to design and print an award for any event within five minutes! Good stuff!

COMPUTERIZED SELF-ANALYSIS

APTITUDES is a program which will analyse your aptitude, personality and motivation and then output the results in three bar graphs. From here, it will offer you a choice of occupations which are best suited to your strengths and weaknesses.

The program is split into two parts. Part 1 is the Aptitude Test; a series of tests which collates all the data required for analysis in Part 2, the results section.

Upon loading the Aptitude Test you are warned that it will take an hour to complete. Please heed this warning! If you are not prepared to spend an hour or so answering the questions and solving the puzzles then you will not gain full use of this program.

The Aptitude Test is series of seven tests and two questionnaires. They are VERY detailed with each test containing dozens of questions or puzzles. The seven areas tested are Numerical Reasoning, Acuity Skills, Verbal Reasoning, Analytical Ability, Technical Ability, Spatial Ability and Perceptual Ability. These range from speed mathematics to physics problems to visualizing 3D objects. There are strict time limits to each test which can sometimes be very hard to beat!

As each test is completed you are shown your score in the form of a bar chart. Performance is measured by how high the bar reaches up the graph.

After battling your way through all seven tests you move on to the two questionnaires. First up is the Personality Questionnaire which asks how you and others see yourself. Next comes the Motivational Questionnaire which makes you choose between two tasks or careers. You must award three points between the two choices available.

The results of both questionnaires are again shown in the form of a bar graph. Your personality and motivational characteristics are shown in different graphs.

It is at this point that you save all of your results to the Aptitudes disk and then load Part 2, the results section. Here you load your results from the disk and examine them on the bar graphs. There is a handy X-Ray mode which allows you to superimpose all three graphs on top of each other. If you wish, you can also print the graphs.

From here, the program will analyse your aptitude, personality and motivation and offer you advice as to the type of jobs which are best suited to you. You may be quite surprised at how close the suggestions are! I know I was. It has advised me to pursue a literary or creative career - exactly the type of career I'm pursuing! Some may say that this makes the program a waste of time but I disagree - it was an interesting hour spent answering the questions. Also, the results in programs such as these always make for a good read, especially when the analysis is being performed on your own personal characteristics.

The only drawback I can see to Aptitudes is that after taking the test, analysing the results and printing the graphs, the program becomes pretty useless. I suppose you could test friends and family and compare results - that would be interesting! Anyway, if you look closely on the disk, you'll find two bonus programs which increase the value. ***THE REVENGE DOCUMENT DISPLAYER 2*** is a good text file displayer and ***MIKE'S PERPETUAL CALENDAR*** is a useful calendar program. These two programs compliment Aptitudes and altogether they make for a very good disk.

I'M LATE, I'M LATE!

The final application program for review in this issue's ST Public Domain Roundup is ***ST ALMANAC V2.0***. This Shareware program (reg. $10) describes itself as, "an easy to use, all-purpose calendar and planner to keep track of holidays, special events, birthdays, appointments and anything else you want to keep an up-to-date record of." Now, if your life is as unorganised as mine, you may find ST Almanac to be very useful indeed!

The documentation provided is very good but, again, you don't really need it. ST Almanac is very user-friendly with lots of click-on selections available. You can increase a month or year, select or mark a day for appointments or special events, read about worldwide holidays or the birthdays of famous people, etc.

You save, load and read information in three separate modes: Holidays & Special Events, Appointments and Almanac. Appointments mode saves by the year, e.g. 14th April 1994. Almanac mode saves by the date, e.g. the second Saturday of April. You can save one special event entry per date on the calendar and ten appointment entries. Special events are marked in blue print. Appointments are marked in red.

Other options available are Print, Month Scan (shows all appointments), Year View (shows the variety of events that have occurred over a year - these can be edited with a word processor) and Editor (lets you edit the data for a particular date in any of the three available modes).

As you can see, ST Almanac will cover almost all of your needs for a calendar program. Also on the disk are two auto-boot programs which show messages upon booting the disk. REMINDER is for general messages. ALMAVIEW is used in conjunction with ST Almanac - it scans the files created by ST Almanac and displays any special events scheduled for that day.

The ST has a wonderful wealth of quality application software! With those reviewed in this column you will be able to remind yourself to print an award for a successful aptitude test (grin).

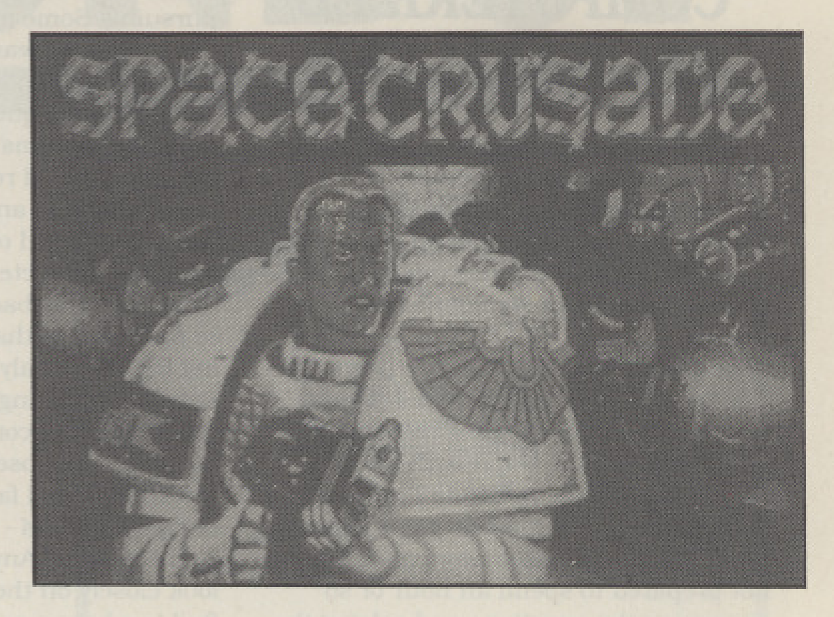
ROUNDUP RATINGS:

ST921 Award Maker	87%
ST713 ST Almanac	84%
ST701 Aptitudes	82%

The disks featured in this review are all available from the Page 6 ST Library. Check the latest ST catalogue and updates or phone 0785 213928 for further information.

ROUNDUP conducted by Stuart Murray

SPACE CRUSADE



Great abandoned space ships float aimlessly through space infested by the forces of Chaos. Only the legendary and heavily armed Space Marines can purge the evil forces from these hulks.

That's the story but what about the game? The game will be familiar to those of you who have played Games Workshop games before such as Warhammer 40,000 or Warhammer. There are three separate "chapters" of Space Marines" which you can choose from, they are "Blood Angels", "Imperial Fists", "Ultra Marines" and "Fluffy Bunny Feet" (I don't think that last one is quite right, do you? - Ed) You have at your disposal up to 5 Marines in each team lead by a Marine Commander. You must board the space hulks and destroy the forces of Chaos that permeate them. The game allows you to choose your team and what weapons they carry. Remember big heavy weapons may be incredibly powerful but you can't move very fast with them and vice versa with light weapons.

You can set up your commander with his personal weapons and give him special orders for double movement per turn, or fire, or any number of other options each specific to each chapter. You can carry more and more special orders as you begin to complete missions. You must also equip your marines with such things as photon grenades, melta grenades, targeters, combi weapons, digital weapons and all manner of destructive things too numerous to mention here. Once you've fully equipped your team, and you must otherwise you can't go any further, you begin the first of 20 missions and progress to the hulk itself. That's were the fun really begins.

Exiting the docking claw you move your men out and you soon discover that you can move, fire, fight hand to hand, use a backpack weapon, open a door, scan for enemies and issue orders. You move your team and issue fire orders for each man. The firing is usually a very complicated matter involving immense multi-sided dice, weapons tables and rulers but this is all done for you by the computer. Selecting a marine will highlight those characters that he can fire at and then the computer takes over and rolls the appropriate number of dice for each character. It then works out whether the turn was a hit or a shot into the floor or ceiling. The same thing happens when the fighting is hand to hand where you can only fight the thing next to you. The forces of Chaos range from Gretchins through Orks, Chaos Marines, Soulsuckers, Androids and the formidable war machine, the Dreadnought.

All movement, scans, backpack weapons, orders and door opening takes place on a 2 dimensional view, much like Gauntlet. All the fight scenes take place in a 3D isometric perspective which has the character firing their weapon and the hit on the character being seen. This may result in a satisfying explosion or a ka-ching as the bullet ricochets off the armour of the enemy and vice versa. You may move all of your characters and those of the other's teams and then your turn is over and its the turn of Chaos. At this point you will see a message that informs you of a random incident that affects you such as one of your marines being out of ammo or that Chaos has experienced a fire frenzy. These can sometimes can be bad or good and its only down to luck as to whether it helps you or not.

The missions that are available are wide and varied with rescue, seek and destroy and scuppering missions that keep you interested for a long while. There are 20 missions available in this game and there is a facility to load up separate mission disks that broaden the appeal of the game. The ability to save your teams status after each mission is a nice feature and the fact that you can save many different games for each of the three teams allows for different teams with different missions from each of the chapters.

Sound for the game is actually not too bad. You get a nice tune while your selecting your team and equipment and the tune continues throughout the game. It is varied and written well enough as to be not too tedious. The sound effects are those normally associated with a game like this, spartan gun noises and explosions. The gun noises are not actually that convincing because the same noise is made for a small bolt pistol as for an auto cannon. That said, the sound is appropriate and doesn't get on your nerves as some other games do.

Graphics for the game are nice and detailed and even when on the small scale overhead view of the hulk you can still work out which is the commander and the normal Marine. The game holds true to the Games Workshop style of design and graphics. The graphics hold your interest and make it more interesting. When on the 3D view you see all the details of the marines uniform including the insignia and battle honours.

This game scores very, very highly on the playability and lastability stakes and this is what you'll probably buy the game for. This is one game that I am personally going to be playing for many months to come. The playability is perhaps down to the fact that the game draws you in and makes you start to think like a Marine and about what you are doing. Time spent playing this is measured in hours rather than minutes, there's no such thing as a short game of Space Crusade, it's all or nothing! Many months from now you'll wonder what sort of battle strategy game you ever played before this came into your life.

Time for me to get back to the game and flush into hyperspace the evil and scurvy forces of Chaos. It's going to be a long time before I tire of Space Crusade.

Title:	SPACE CRUSADE
Publisher:	Gremlin/GBH Gold
Price:	£9.95
Reviewer:	Nicholas Bavington

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180
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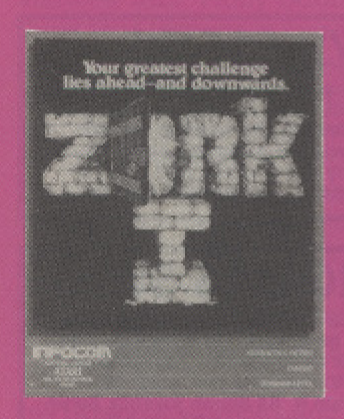
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